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TO OUR READERS.

— x —

A LETTER was delivered at our office some few days since, beginning with an inquiry, but with no other signature than our monogram,

“What an appropriate monogram of Horticulture, Journalists of Hives, to support the H, and the H holds up that sister of mine, whose scribble H always remind her of a broken gate



and concluding with this postscript:—

that is! It may be taken to mean Journalists and Journalists of Hens. The J, too, seems the J, just as co-Editors ought to do; though you sometimes insert, declares that that J and fastened to a post.”

Now, it so happened that the J was reading aloud the letter to the H, and when he had concluded that sentence he stopped and said, “‘MAUD’S’ sister wrote that. These ladies are both Yorkshire—here’s the Leeds postmark.”

But H, no doubt better satisfied with being compared to a gate than J was with his likeness to a post, made a response neither negative nor affirmative, but evasive, for he said, “Read on.” So J read on as follows:—“Our cattle-yard has suffered dreadfully from the rinderpest; but that has nothing to do with the Journal writers, unless “WILTSHIRE RECTOR” takes his tithe in kind. And Cousin Anne, who married Phelim O’Donoghue, of Ballygarth House, in Sligo, can’t settle to anything for fear of the Fenians; but I suppose they are no connections of the gentleman who writes about Potatoes and Wine, though he is a Fenn. And then those dreadful failures—I suppose that they won’t injure the Journal, unless J and H have shares in the Agra, the London Chatham & Dover, and the Overend things. My sister says that she dares say they have, for men who write much rarely have common sense; and if J and H have had to do with those things, she thinks the Journal may fail too. It would be a thousand pities, for I really believe it does a little good. Our curate takes it, and I know laid out his flower garden from something drawn in it; and we give our copy to Harry Martin, who married our cook and settled in Craven, and he sends it to his brother in New Zealand. Mrs. Martin wrote to her sister, our housemaid, the other day; and I must make one extract, because I know it will please J and H, to whom I beg, in conclusion, to say, no longer jocularly, I wish many happy New Years. This is the extract:—‘Martin does what the Journal tells him, and has just said, “I really do not know what I should have done without it. I should have ‘gone all wrong,’ for I do not know any one who could have given me a word of advice.” And his brother’s letter from New Zealand last month said, “The Journal *does* remind me of home so; and I now say, as I often say when reading, God bless the Editors, and prosper their work.”

“That will do for a Preface,” said H; but he and J must add that neither rinderpest, nor Fenianism, nor ruined speculations have weakened the resources of the Journal. Its staff is unscathed and strengthened; its circulation increased; and they hope that the J will continue to “support the H,” and the H to “uphold the J,” for many years to come.

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WEEKLY CALENDAR.

Day of Month.	Day of Week.	JULY 2-9, 1883.	Average Temperature near London.			Rain in last 35 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.								
3	Tu	<i>Adenandria tetragona.</i>	74.1	50.5	62.3	17	50 at 5	17 at 8	51 at 10	45 at 9	21	8 50	184
4	W	<i>Acronychia Cunninghamii.</i>	75.9	50.8	63.1	18	51 at 5	17 at 8	18 at 11	57 at 10	22	4 1	185
5	Th	<i>Actinotus bellianthi.</i>	76.4	50.6	63.0	16	52 at 5	17 at 8	48 at 11	after.	23	4 13	186
6	F	<i>Adenandra fragrans.</i>	76.3	51.3	63.8	17	53 at 5	16 at 8	49 at 11	after.	24	4 28	187
7	S	<i>Adenandria ussallensis.</i>	76.8	51.0	63.4	20	53 at 5	16 at 8	17 at 0	40 at 3	25	4 33	188
8	SUN	6 SUNDAY AFTER TRINITY.	78.9	49.8	61.8	19	54 at 5	15 at 8	53 at 0	58 at 3	26	4 43	189
9	M	<i>Adenandria viscosa.</i>	78.8	49.7	61.8	17	55 at 5	14 at 8	55 at 1	10 at 5	27	4 51	190

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 74.9°; and its night temperature 50.4°. The greatest heat was 97°, on the 5th, 1863; and the lowest cold 38°, on the 9th, 1863. The greatest fall of rain was 0.82 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

ALTERNANTHERA SPATHULATA,
ALTERNANTHERA SESSILIS AMENA,
AND TELEIANANTHERA FICOIDEA VERSICOLOR.



HAVING exhibited the above plants at the International Horticultural Exhibition at South Kensington, I have received so many letters inquiring as to their habit,

size, height, hardiness, where plants can be procured, &c., that I fear all have not received the information sought; and as I still receive letters respecting them, the following few remarks, I trust, will give the required information.

In the first place I received one plant of each of the above last autumn from Mr. B. S. Williams, of the Victoria Nursery, Holloway, and I was so pleased with their appearance that I determined at once to propagate a stock of them. This I did, and I have bedded out about two thousand. If I mistake not, these plants will prove one of the greatest boons to the flower garden that have been secured for some time, the Iresine excepted. My predictions respecting the Iresine give me every confidence. I was the first to recommend it for flower-garden decoration; and although I have had many hard battles to fight in its favour, I believe I have come off a conqueror, and if further proof is required with regard to its usefulness and beauty, I may state that upwards of five thousand plants of it are here bedded out this season.

ALTERNANTHERA SPATHULATA (Brazil).—This is of close compact growth, and will be found a beautiful plant for edgings or ribbon-borders. I have a plant of it 20 inches in diameter, and only 5 inches in height. It is a delightful little plant, and a free grower; it has been bedded out about three weeks, and has withstood 5° of frost without injury. Its colours vary with the situation in which it is placed, being pink and green, maroon, &c.; full exposure to the sun will, I believe, be found most suitable to its colouring.

ALTERNANTHERA SESSILIS AMENA (Brazil).—I have not so large a stock of this as of *spathulata*; it is of much stiffer growth, and appears to spread close to the ground. This is likewise suitable for edgings. The foliage is much larger than that of *spathulata*, and the habit is entirely different; the plant does not exceed, with me at present, 5 inches in height, and could be pegged down almost flat. It was planted out at the same time as the preceding, and sustained no injury from frost.

TELEIANANTHERA FICOIDEA VERSICOLOR (India).—This is of much taller growth than either of the above. My largest plant is 2 feet in diameter and 1 foot in height. It differs from the *Alternantheras* in colour, and is a plant that attracts

the attention of every one. The foliage is much larger and rounder than that of the *Alternantheras*, and its habit strong and upright. Its colours are pink and maroon in some positions, but in this respect the plant varies much in different situations. I believe all the three plants named will bear the full sun, and grow freely either in a dry or moist situation. The *Teleianthera* was bedded-out with the others, and received no injury from frost.

I have two circular beds planted as follows—viz., *Alternanthera spathulata* in the first row, *Alternanthera sessilis amena* in the second, and *Teleianthera ficoidea versicolor* in the centre, and if I am not mistaken these beds will here be the gems of the season, notwithstanding the tens of thousands of plants used in bedding and bordering at Osberton. They are already very attractive, and much admired.

I trust that those who have a stock of the three plants will advertise, it being just the time for planting without risk and to give them a fair trial, so that they may not, like the *Iresine*, be condemned in consequence of mere mismanagement and an unfavourable summer. All the above are easily propagated, and are of rapid growth. For the present I will not speculate upon which is the best, or speak more fully of them, but I shall content myself by merely introducing them to public notice, with a strong recommendation to try them.—EDWARD BENNETT, *Gardener to G. S. Poljambe, Esq., Osberton Hall.*

ROSES ON THEIR OWN ROOTS.

THE facts that the Dog Rose, or Briar, is very prolific in suckers on light soils, and that the Roses upon it are short-lived, have caused attention to be paid to those who advocated the growing of Roses upon their own roots, and we have such plants offered for sale by the dozen, hundred, and thousand; and so great is the demand that very often when a person decides on having a group of Roses on their own roots the variety required is "sold out."

Experience leads me to the conclusion that the days of the Briar as a stock on many soils, and particularly on those which are light, are numbered; and though the Manetti will make a vigorous plant in a very short time, yet even it on light dry soils is not to live many days. I have had Roses, both dwarfs and standards, on the Briar doing exceedingly well on cold, wet, heavy clay soil, where the Rose on its own roots could not, did not, live, and the Manetti on the same soil afforded a plant at first more vigorous than the Briar, but not after the third year, neither it nor the Briar pushing more than an occasional sucker. The Manetti does better in a greater variety of soils than either the Briar or Roses on their own roots, and for making a plant soon it is vastly superior to either; but I cannot say that it equals the Briar on heavy cold soils after the third year, whilst on light soils it may and does make a vigorous plant, and affords a great show of bloom long before Roses on their roots become what we may term established. After the second year, however, it does not surpass them either in plant or bloom, and would then seem to require removal, as, after lifting, it makes a first-class growth, and no stock seems to impart such a degree of vigour and to be attended

with such fine flowers as the Manetti in the second year after planting. The Dog Rose is productive of a greater amount of bloom than the Manetti, so much so on light soils that the Roses worked on the former only make a few inches of growth and then bloom, the strength of the Briar being expended on the production of suckers, which come thicker and faster as the Rose becomes weaker and the stock older. The Manetti, on the other hand, gives larger blooms, owing to its being a better feeder.

My object in making these remarks is to learn the experience of others. My own is, 1st, That Roses on the Briar do well on strong cold soils, and are eligible for groups or otherwise; but on poor and light soils the Roses on it do not do well either as standards or as dwarfs for groups, on account of their tendency to produce suckers and their shortness of existence. 2nd, That the Manetti stock succeeds on either strong or medium-textured soils, and makes a much better plant, and the Roses worked on it produce finer trusses and blooms, than those either on the Briar or their own roots; but on light soils it is as short-lived as the Briar, though it grows vigorously for a few years, and much more so than either the Briar or the Rose on its own roots. 3rd, That the Rose on its own roots, though it takes a longer time to make a plant than the Manetti, is more desirable for groups than either the Briar or Manetti on account of its compact growth, its freedom from suckers, and the durability of the plants; but this applies only to rather light and warm soils, for on strong cold soils Roses on their own roots do not do well.

Now, Roses on their own roots take some time to become established, and they do not grow so freely for a while as when worked on the Manetti stock, and they therefore require very liberal treatment, particularly where the soil is light and hot, and this is the soil most suitable for most of the Tea-scented and China Roses. These varieties, as everybody knows, are not so hardy as the Perpetuals, and are often destroyed or killed to the ground by frost, and if they happen to be grafted or budded on the Manetti or Briar very often the Rose is killed; but if cut off to the ground when on their own roots, they push from the bottom. For groups, I find if Tea, China, and Bourbon varieties, and indeed all Roses, are to succeed on light soils, it must be by growing them on their own roots, and for the three classes named, a dry soil is particularly suitable, because it does not induce strong late growths, and there is, consequently, less danger of injury from frost. It is a well-known fact, that plants on dry soils will withstand a greater amount of cold than when grown on strong soil. For groups, where the soil is not strong, all kinds of Roses succeed best on their own roots, and where the soil is light and hot it is the only eligible mode of culture for the more tender classes, as Tea and China Roses.

The most suitable season for the propagation of the Rose by cuttings is now at hand, and this should be done when the blooming is past, and before the second growth takes place. Shoots that have bloomed have the wood sufficiently ripe for propagation, and so have those which have not done so, but have formed the terminal bud. The moderately strong shoots are best for cuttings. They should have three joints or buds, and be cut transversely below the lowest one, removing the leaf there, but leaving the others untouched. In taking a shoot for a cutting, cut it about three eyes from the point at which it has its rise on the shoot of last year, and avoid the two uppermost eyes beneath the place where bloom was, as the shoots from these joints or eyes are not generally so free in growth as those situated lower down. The cuttings having been taken off above the uppermost leaf by a slanting cut from the back towards the leaf, and three-quarters of an inch above it, they should be inserted singly in 60-sized pots. In preparing the cutting-pans, a piece of broken pot should be placed over the hole, and the pot half filled with crocks broken very small, and passed through a sieve with a quarter-inch mesh; fill up to the rim with light loam, peat, and silver sand in equal parts, and in the centre of each pot make a hole down to the crocks with a dibble exceeding the cuttings in diameter as little as possible. Drop a little silver sand into the hole, say from a quarter to half an inch, put in the cutting with its base resting on the sand, and fill up round the cutting with silver sand, then give the pot a sharp tap on the potting-bench.

For the reception of the pots a frame placed on a gentle hot-bed of 75°, and covered with from 4 to 6 inches of old tan or sawdust should be in readiness, and in this the pots are to be plunged to the rim. A gentle watering should next be given, and then the lights may be put on. The frame must be kept

close, and shaded from the sun, and the cuttings should be gently sprinkled overhead every morning. In a fortnight they will have callused, and new shoots will be forming; these may grow an inch or two, and then the cuttings should be transferred to another hotbed, gradually withdrawing the shade, and admitting air daily, so as to have them well hardened off by the end of ten days or a fortnight. They may then be potted into 4½-inch pots with the ball entire (crocks and all) in a compost of rich turfy loam, and be again plunged in the bed, and kept rather close for a few days, after which plunge the pots in coal ashes in an open situation, and in September shift the plants into six-inch pots, and plunge these to the rim in coal ashes in a cold frame. If, however, the young plants have grown but little, and the pots are not full of roots, let them remain in 4½-inch pots for the winter. I find that cuttings of Tea, China, and Bourbon Roses struck in this manner early in summer, make very nice pot plants for blooming in the following year. This is the best of all modes of striking Rose cuttings that I have tried, and answers equally well for Moss Roses, only they require more time to root, and must remain in the first hotbed fully a week longer than Perpetuals. Provence Roses also require more patience, so do the Damask Perpetuals.

Another mode of propagation by cuttings is, when the bloom is just over, to prepare and pot cuttings as above described, to place them in a cold frame, and keep close and shaded from bright sun, and sprinkled overhead every morning. They must remain in the frame until they have made shoots 2 inches long, and should then be gradually hardened off, and shifted into larger pots; those 4½ inches in diameter will be large enough. If the varieties are Perpetuals, the plants will do plunged in coal ashes in a dry, open, but sheltered situation, and will be eligible for turning out in spring for groups in the flower garden; but if they belong to the Tea or China section, it will be well to winter them in a frame, and afford protection during severe weather. By this method the Moss Roses do not strike with such certainty as the Perpetuals, but root fairly, and so will most of the Tea varieties.

I have tried placing the cuttings in a bed both with and without heat, and covering them with a frame kept close and shaded, sprinkling them every day; but, though the cuttings rooted freely, the loss in potting consequent on the injury done to the roots was a greater drawback than the labour saved by not placing them in pots in the first instance. I lost a great many after potting, but scarcely one when they were placed in pots in the cutting state. I can only state my experience, and that is, do not pot them until the following spring if you put the cuttings in a bed without pots, for the roots are so very tender that the least touch will break them; and they turn black and die off at the stem as if from some unknown cause. I am certain that the cuttings do not like to be disturbed so soon after the callosity is formed and the delicate fibrils emitted.

Another method which I have tried, and shall now describe, is to take cuttings of the well-ripened fresh wood by the middle or end of September, and plant them under a hand-glass or in a frame with lights in a warm situation. The cuttings must have a sprinkling of water occasionally, also shade from bright sun, but when the callosity is formed, as it will be in a month, give air, and continue to do so in mild humid weather during the winter. In the following April, after having been exposed to the atmosphere, they may be taken up and potted, or planted out finally in the beds.

The essentials to success are to put in those cuttings only that are taken from shoots which have flowered or formed the terminal bud or leaf, and this before the shoots have commenced a second growth; to avoid deluging them with water, and yet to keep the atmosphere moist and shaded, so as to preserve the foliage fresh until the cuttings have rooted, or at least until a callus has been formed; to be very careful in potting so as not to injure the tender roots; not to pot or disturb the cuttings until they have rooted and are well hardened off; and, lastly, not to keep the soil very wet after potting. Above all, avoid putting in any spare shoots, sappy, gross, and but partially ripened, for though these root freely, and seem to flourish, their stems turn black and they perish at a time when rapid growth is expected.—G. ABBEY.

TESTIMONIAL TO THE REV. S. REYNOLDS HOLM.—At a dinner held at Anderson's Hotel, Fleet Street, on Thursday evening, this gentleman was presented with a handsome silver urn in

acknowledgment of his exertions in connection with the National Rose Show, which owes its origin to him. The Rev. E. H. Dombraun occupied the chair.

ZONALE GERANIUMS WANTED.

NOTWITHSTANDING the many attacks that are made on the reigning fashion, it is seldom that they have any further effect than that of encouraging what was intended to be put down; and perhaps in some cases it is as well that it is so, for it is not always that those who assume to be leaders of public taste are correct in the views they take. As an instance of the inutility of opposing public opinion, let us only look at bedding plants, which from very small beginnings have assumed an importance which no one ever dreamed of, and it is not too much to affirm that their cultivation is still increasing, and probably may do so for some time yet. This increase in their use has not been effected without bringing certain classes of plants more prominently forward than others; and although some have been driven from the field, or nearly so, others have succeeded them. Thus the list, in spite of weeding and (as our worthy conductor, "D." of Deal, says), hanging-days, is as numerous as ever, more so, certainly, in the bewildering catalogues of varieties, while the number of species adapted for bedding purposes is fully equal to what it was a dozen years ago. There is, however, a difference in the estimation in which certain plants were held at that time and now; some have fallen into disfavor, or nearly so, while others are more patronised every year. Of the latter class is that to which I would now more particularly call the attention of the skilful hybridiser, as something more is wanted than we now possess, and with that I think it is in his power to furnish us.

Taking, therefore, Zonale Geraniums as a class of plants which is every day more and more cultivated, the question to be asked is, What further improvement is wanted? Several varieties seem to possess all that is really needed in their respective tints as flowers, and the truss and foliage are alike good, and, besides, every year dozens of other kinds are added to the list. Some of them are doubtless some little improvement on others of a like kind before them, while many are not so good. Now, would it be called a restrictive and unconstitutional policy to shut up the present lists from further additions or innovations within the circle that is well represented, and only allow addition at such points as are of real value in carrying out the object aimed at? To make this more plain let us glance at what we now possess, and see where additions can be well made; and taking the class of Zonale bedding Geraniums which are cultivated for their flowering qualities, we have already almost every conceivable tint, from white up to dark crimson, embracing many shades of flesh colour, pink, salmon, rosy salmon, scarlet, and crimson. Many other intervening colours or tints might be enumerated, but enough have been named to show that our existing list is a tolerably extensive one. Thus, those who keep pace with the fashion in trying all or a great portion of the varieties sent out each year by different cultivators will have accumulated a mass of varieties perplexing by their names, and equally so by the resemblance which many of them bear to those grown before.

Now, good as many of the bedding Geraniums of the present day undoubtedly are, I by no means affirm that further improvement is not wanted, and this, doubtless, is now and then exhibited by some of the new varieties sent out; still I cannot but think that if unexplored channels were more sought after, additions of more importance would be made to our lists. Assuming that growers should pronounce themselves satisfied with the flesh-coloured, pink, salmon, and scarlet sections, and their intermediate tints, cannot a better representation of the deep crimson or magenta class be furnished? I do not pretend to be well versed in the varieties said to possess these colours, but the best in my own collection fall short of what I think is wanted here, Magenta, Imperial Crimson, and Pink Pearl being the nearest approach I have, and these evidently capable of great improvement in habit, colour of bloom, and other qualities. My object, therefore, now is to ask those who take so much trouble year after year in producing new kinds to try to obtain improvements in the deep crimson and magenta varieties. Those of other colours are plentiful enough, and indeed there are many to spare, but there seems no reason to doubt but that the Zonale Geranium may be coaxed to produce flowers of as bright a purple as the Dahlia; and many other fancy colours might also be obtained.

Now, the above advice to raisers of new varieties to prosecute their labours in the way directed, does not preclude novelties being sought for in other directions. Amongst the many valuable acquisitions bequeathed to the world by the late Mr. Beaton, there is one scarcely verifying its name, "Indian Yellow." Might I ask those who push their improvements to the greatest extent that such can be carried, to try if by degrees they cannot bring out in this Geranium a colour more resembling that of a yellow *Caleolaria*? This I hardly expect will be accomplished, but an approach to such a result may be effected. A yellow Geranium would be something extraordinary, and it deserves the notice of those interested in striking out new paths, and as the existing kinds, as stated above, may do pretty well now without further amendment, I trust these hints may induce some to direct their attention in the direction indicated; improvements may likewise be effected in other channels on which but little attention has been bestowed, and these being equally important may be sought for at the same time. I allude more especially to the Ivy-leaved kinds, which have not by any means reached the position I expect they will hold some day as ornaments of the parterre. A very indifferent gold-edged one, with the old crimson, white, and pink-flowered varieties, are all that I am acquainted with, and each is capable of improvement. I hope some one will try his skill at hybridizing this section with the Zonale, so as to give a more upright flower-stem, and a more robust habit. Could not Mr. Willis, who has done so much with the Verbena by hybridizing the hardy herbaceous one with the finer-flowered class, do something with these Geraniums also? They seem to deserve notice; and their adaptability to hot sunny situations where there is scarcely soil enough for other plants to live, as in vases, baskets, &c., give them claims on our attention hitherto not sufficiently recognised.

It would be extending this paper too far were I to enumerate what is wanted in the variegated line. This, however, seems likely to be pursued pretty well, and there promises to be no lack of gold and silver-edged varieties, with the addition of zones of various colours. Of them it is not my purpose here to speak, neither would I restrict those who aim at the obtaining the colours required to be too particular as regards the habit of the plant. Once supply the tint wanted, and other qualities will follow. The task, however, is I expect only one of time, its accomplishment will assuredly come, and as bedding Geraniums form, unquestionably, the most important feature in all gardens, it follows that any additional colour in which this plant can array itself will make it the more acceptable. I trust the hints above given may not have been in vain. I might have pursued the subject further, and might even have asked if such classes of Geraniums as the old Shrubland Pet, a small Oak-leaved variety, could not be improved; but I find I am trespassing on other ground, and therefore beat a retreat, trusting some one will endeavour to supply the wants indicated.—J. ROBSON.

PLASTER FOR BUDDING ROSES.

PERHAPS the following remarks on budding Roses may be of use to some of your readers. I have adopted, with complete success, a plan which has been new to all those to whom I mentioned it, and by which much expenditure of time and trouble is saved, and I think a great amount of certainty obtained.

Instead of either bast or worsted I use some common adhesive plaster. With this I can bud three Roses in the same time that I can bud one with bast. The plaster adheres at once exactly where it is required; no tying is necessary, and the operation can be performed with great neatness and exactness, as well as rapidly. The plaster I used was some common white adhesive plaster, bought at the chemist's (called diachylon), and cut into narrow strips. I do not know whether my plan is absolutely new, but it has been so to all those to whom I have mentioned it, and I feel sure that your readers who try it will find it thoroughly successful.

Another plan, which was shown to me by a lady, has proved so useful to me, and is so little practised, that I think it worth while to mention it also. It is that of budding any convenient branch of a Briar, either in a hedge or elsewhere, and when the bud has taken, cutting off the branch, and planting it, with the bud on, like any ordinary Rose cutting. In this way shapely plants, especially suited for pots, may be obtained; and the plan is very useful if you happen not to have

sufficient stocks ready for your buds. I now seldom bud a stock without inserting some additional buds higher up on the branches, which I can afterwards cut off, and plant as cuttings.

I shall be glad to learn your opinion whether the plans which I have thus suggested recommend themselves to professional gardeners.—*AMATEUR, Harrow-on-the-Hill.*

ROYAL HORTICULTURAL SOCIETY.

NATIONAL ROSE SHOW.—JUNE 28TH.

THE very hot weather of the last few days had acted in two ways on Roses. It had certainly brought a vast number of flowers into bloom which, but for it, would have been kept back, and so increased the amount of stands exhibited; but I am not sure that it tended to increase the quality of the blooms, for cloudy weather with occasional glimpses of sunshine is, I conceive, the best for Roses; and it is because this is the character of our weather generally that we possess so much advantage over the French growers. A few days of their tropical weather forces the Roses into bloom, and thus they rarely attain the size and quality that we are in the habit of seeing. Now, the flowers looked *blasé*, like some fair maiden who, although very charming indeed, shows the effect of the last night's dissipation, and whom, while you cannot help admiring with the homage that beauty always demands and obtains, yet you cannot but wish you saw fresher and more natural. The day, too, was very, very hot; and Roses which I saw put up well very soon began to show their eyes, and those not of the most brilliant character. While saying this I must at the same time add there were some really grand blooms, and I think the amateurs, especially, were in great force. There were some stands, indeed, which were the perfection of growth; there were others which ought to have been put under the table.

The Class for eighteen new Roses of 1864 and 1865 brought five competitors—Messrs. Paul & Son, Fraser, Cant, Francis, and Keynes. In Messrs. Paul & Son's collection were *Alpéide de Rotalier*, in good condition; *Centifolia rosea*, too thin; *Rushton Radclyffe*, fine, but colour a little gone; *Alfred Colomb*, magnificent flower, one of the best, but here again the colour was a little faded by the heat; *Duke of Wellington*, very bright scarlet, good shape, and excellent; *Maréchal Niel*, very good; *Madame Victor Verdier*, very fine; *Madame Fillion*, a beautiful flesh-coloured flower; *Madame Charles Verdier*, too flat; *Princess Mary of Cambridge*, good; *Belle Normande*, too washy in colour; *Eugène Verdier*, dark, inclined to show the eye. In Mr. Fraser's stand were *Marguerite Dombain*, a fine full Rose; *Maréchal Souchet*, good; *King's Acre*, too coarse; *Princes de Porcia*, very bright and good; *Plum*, rough and thin; *Gabriel de Peyronny*, somewhat rough; *Alfred Colomb*, very fine. In Mr. Cant's stand were *Josephine Beauharnais*, a fine light-coloured flower; *Marguerite Dombain*, good, and somewhat similar to the preceding; *Duke of Wellington*, very good; *Charles Rouillard*, very fine; and *Maréchal Niel*. Mr. Keynes's collection contained large flowers, but wanting a little in refinement. There was a fine bloom of *Xavier Olibo*, which has, however, an awkward way of twisting itself about, and not opening freely; *Général Jacqueminot* does the same, but *Xavier Olibo* being stiffer in petal than the *Général*, this cause prevents it from opening at all sometimes, otherwise it would be a magnificent dark flower. Mr. Francis had amongst others *Xavier Olibo*, *Souvenir de William Wood*, &c.

In the Class for twelve trusses of any new kind Messrs. Paul & Son had a stand of *Marguerite de St. Amand*, a splendid Rose, of a bright flesh colour, and a decided acquisition. Mr. Keynes had *Madame Moreau*, very large and bright, but too saucer-like to suit my taste, especially for showing in this way. It will take a good place as a back row flower, but it is not the style we want. *Pierre Notting* from Paul and Son was good, but it had a tendency to show the eye, which detracted from its merits. Mr. Cant had *Marguerite de St. Amand*, very good.

Awards—For eighteen new Roses of 1864 and 1865: first, Messrs. Paul & Son; second, Mr. Fraser; third, Mr. Keynes; fourth, Mr. Cant. For twelve of 1864: first, withheld; second, Messrs. Paul and Son. For twelve trusses of any other new kind: first, Mr. Cant; second, Mr. Keynes; third, Messrs. Paul & Son.

The stands for decoration were decidedly pretty, and most of them in good taste. Mr. Soder, gardener to Osgood Hanbury, Esq., Brentwood, had an oval stand with *Fern* leaves; springing from it was an oval frame with a glass vase at the base, and surmounted with another glass vase, all containing nice blooms of Roses. Miss Wint, of Brighton, had a stand composed of five tapering glasses, the centre one being tall, and glass stems coming from it to each of the smaller ones. Mr. Hedge had a very pretty stand with some fine flowers, and a beautiful Moss Rose bud on the top. Another stand, one of Mr. March's pattern, was very handsomely set up with abundance of Maiden-hair *Fern* interspersed through it. It will thus be seen there is a little deviation from Mr. March's original pattern, although there is hardly one, I think, even now prettier than it, especially when tastefully set up.

Awards—For decorated baskets or vases of Roses: first, Mr. Marlow, gardener to J. Wigan, Esq., Mortlake; second, Mr. Hedge; third, Mr. Soder. For bouquets: first, Mr. Chard; second, Messrs. Francis; third, Mr. Hedge.

I should have added that the Show generally was held in the large

conservatory, with a canvas awning stretched over it. It was, however, far too warm, and the Roses very soon felt the effect of the heat. The stands for decoration were in the side arcade, where also were some nice plants from Mr. Bull, and Pinks from Mr. Charles Turner, of Slough. On the whole the Show was very successful, and some of the best-known friends of the Rose were amongst the Judges.—*D., Deal.*

THE general features of the Exhibition held at South Kensington, on Thursday last, with which was incorporated the National Rose Show, having been stated above, it remains for us to give the names of the prizetakers and of the varieties which they exhibited.

In Class I., single trusses of seventy-two kinds, Messrs. Paul and Son, and Mr. Cant, of Colchester, had each very fine exhibitions. From the former came fine blooms of *Xavier Olibo*, *Madame Boutin*, *Olivier Delhomme*, *Maréchal Niel*, *Gloire de Dijon*, *Devoniensis*, *Madame Vidot*, Mrs. William Paul, fine violet crimson with a fiery centre; *John Hopper*, *Comtesse de Chabillant*, *Beauty of Waltham*, *Princess Mary of Cambridge*, *Madame Boll*, *Alba rosea*, *Baron Adolphe de Rothschild*, *Louise Magnan*, *Souvenir d'Elise*, very large and beautiful; *Rushton Radclyffe*, *Centifolia rosea*, *Louise de Savoie*, *Princes de Porcia*, fine scarlet; *Comte de Nanteuil*, *Lælia*, *Baron Gonella*, and *Louise de Savoie*.

Mr. Cant had *Marie Baumann*, very large, rosy crimson; *Madame Charles Wood*, a fine crimson; *Duc de Rohan*, *Xavier Olibo*, *Comtesse de Chabillant*, *Madame Victor Verdier*, *Devoniensis*, *Niphotos*, *Marguerite de St. Amand*, *Victor Verdier*, fine; and with few exceptions the whole of his blooms were remarkable for size. It may also be remarked, that in these and some other stands the trusses were set up with buds.

Mr. Keynes had fine blooms of *Madame Hertot*, white; *François Lacharme*, *John Hopper*, *Pierre Notting*, *Triomphe de Rennes*, *Gloire de Dijon*, *Mdlle. Bonnaire*, very prettily tinged with rose in the centre; *Moiret*, *Duchesse de Caylus*, and *Maréchal Niel*.

Awards—Equal first, Messrs. Paul & Son, and Mr. Cant; second, Mr. Keynes; third, Messrs. Francis.

In Class II., forty-eight kinds, three trusses, there was a very fine display, particularly in the stands of Mr. Turner, of Slough, and Mr. Keynes. The varieties seen to best advantage were *Olivier Delhomme*, *Virginal*, beautiful in colour; *Coupe d'Hébé*, Mrs. Rivers, *John Hopper*, *Gloire de Dijon*, *Souvenir d'un Ami*, *Charles Lefebvre*, *Xavier Olibo*, *Le Rhone*, rich crimson scarlet, *François Lacharme*, *Baron Gonella*, *Marguerite de St. Amand*, *Eugène Verdier*, dark violet purple; *Beauty of Waltham*, *Joseph Fiala*, violet shaded crimson scarlet; *Duchesse de Caylus*, bright rosy crimson, and very full; *Denis Helye*, *Alba rosea*, *Madame Victor Verdier*, *Comtesse de Chabillant*, Dr. Andry, *Madame Boll*, *Princes of Wales*, rosy crimson; *Maurice Bernardin*, *Le Brillant*, *Madame Vidot*, *General Castillane*, *Laurent Descourt*, purplish scarlet, brighter in the centre, and many others which it would be tedious to enumerate.

Awards—First, Mr. Turner; second, Mr. Keynes; third, Messrs. Francis; fourth, Messrs. Paul & Son.

Class III., was for twenty-four kinds, three trusses. Here Mr. Cant took the lead with, among others, remarkably fine trusses of *La Brillante*, very bright in colour; *John Hopper*, *François Lacharme*, *Marie Baumann*, very large and full; *Princes Camille de Rohan*, *Mdlle. Bonnaire*, and *Madame Charles Wood*. Messrs. Paul & Son, who were second, had *Princess Mary of Cambridge*, *La Ville de St. Denis*, and *Queen Victoria*, large, white, shaded with delicate rose; Mr. Turner, fine trusses of *Maurice Bernardin*, *Senateur Vaise*, *Jules Margottin*, *Comtesse de Chabillant*, *La Reine*, *Madame Knorr*, *Marguerite de St. Amand*, and *La Tour de Crouy*, very large; and Mr. Keynes, *Madame Charles Wood*, *Duc de Rohan*, pretty buds of *Madame Furtado*, *Victor Verdier*, *Madame Clemence Joigneaux*, lilac rose; and *Le Baron de Rothschild*, deep crimson scarlet. *Alfred Colomb*, bright rosy red, came from Messrs. J. & C. Lee.

Awards—First, Mr. Cant; second, Messrs. Paul & Son; third, Mr. Turner; fourth, Mr. Keynes. Commended, Messrs. Francis.

In Class IV., single trusses of twenty-four kinds, Mr. Turner had a fine bud of *Devoniensis*, *Duchesse de Caylus*, very fine; *Madame Joséphine Guyet*, *Madame Victor Verdier*, *Madame Furtado*, *Gloire de Dijon*, *Devoniensis*, *Jules Margottin*, and *La Reine*; and in other stands were fine examples of several of the above, *Senateur Vaise*, *William Griffiths*, *Maréchal Niel*, *Madame Charles Wood*, *Charles Lefebvre*, *Victor Verdier*, *Le Rhone*, *Marguerite de St. Amand*, *Rubens*, *Lælia*, *Marie Baumann*, and *Alphonse Damaizin*.

Awards—First, Mr. Turner; second, Mr. Cant; third, Messrs. Paul & Son; fourth, Mr. Keynes.

In the Amateurs' classes, all for single trusses, there were many excellent stands, and but few that could not be considered fair.

In Class V., forty-eight kinds, Mr. Hedge, Reed Hall, Colchester, took the first honours with a set in which we remarked fine blooms of *Madame Charles Wood*, a fine bud of *La Boule d'Or*, *François Lacharme*, *Pierre Notting*, *Marie Baumann*, *Madame Villermos*, *Souvenir d'Elise Vardon*, *William Griffiths*, *La Ville de St. Denis*, *Mathurin Regnier*, and *Anna de Diesbach*. He had also a fine truss of *Cloth of Gold*, a variety which this year seems to be unusually fine, consisting of five blooms. Mr. Ingle, gardener to C. G. Round, Esq., Colchester, had *Eugène Desgaches*, cream, tinged with rose; Mr. Rivers, *Souvenir d'Elise*, *Devoniensis*, *George Paul*, *Lord Macaulay*, very dark crimson; *Madame Victor Verdier*, *Caroline de Sansal*, and *Maurice*.

Bernardin. From Mr. Moffat, gardener to the Hon. Mrs. Maynard, Easton Lodge, Dunmow, came *Empereur de Maroc*, Devonensis, Beauty of Waltham, Gloire de Dijon, Madame Boll, and *Impératrice Eugénie*, small, white, tinged with blush. In the stands of other exhibitors in the same class we noticed *Joseph Fiala*, Spotted Queen, carnation-striped; *Gloire de Santenay*, L'Enfant Trouvé, and *June*.

Awards—First, Mr. Hedge; equal second, Mr. Moffat and Mr. Ingle; third, J. Hollingworth, Esq.; fourth, Mr. Chard.

Class VI. was for thirty-six kinds. Here we noted *Madame Bravy*, *Prince Léon*, *Madame Masson*, violet, to which colour it changes from crimson; *Mrs. Rivers*, and *Beauty of Waltham* from Mr. Ingle; and from Mr. Hedge and others, *Souvenir d'Elise Vardon*, some 5 or 6 inches across; *Cloth of Gold*, *Louise Magnan*, *Oriflamme de St. Louis*, bright crimson; *Anna de Diesbach*, *Charles Lawson*, and *Général Jacqueminot*. *André Leroy*, a fine-coloured flower, was shown by Mr. Wright, gardener to Mrs. Ramsden.

Awards—First, Mr. Ingle; second, Mr. Hedge; equal third, Mr. Chard and Mr. Marcham; fourth, Dr. Cooper.

In Class VII., twenty-four kinds, the best exhibition was that of Mr. R. B. Postans, of Brentwood, who had fine blooms of *Triomphe de Caen*, violet crimson, with a scarlet centre; *François Lacharme*, *Charles Lefebvre*, *John Hopper*, L'Esmeralda, *Prince Camille de Rohan*, *Empereur de Maroc*, *Olivier Delhomme*, and *Madame Boll*. Mr. May, gardener to C. Worthington, Esq., *Caversham Priory*, also exhibited *Prince Camille de Rohan*, *Lord Macaulay*, and others, in very good condition; and Mr. Dennis, Folkington, *Madame Maarin*, and *Bougère Tea Roses*, the one white, the other fawn. There were several other good exhibitions in the same class.

Awards—First, R. B. Postans, Esq.; equal second, Mr. May and Mr. Dennis; equal third, Mr. Plester and the Rev. Canon Fisher; fourth, Rev. V. Knox Child.

In Class VII., twelve kinds, the following were in fine condition—viz., *Gloire de Dijon*, *John Hopper*, *Marie Baumann*, *Charles Lefebvre*, *Cloth of Gold*, *Madame Bravy*, *Senateur Vaise*, *Auguste Miié*, and *Milla*. *Emain*, a pretty white Perpetual.

Awards—First, Rev. V. Knox Child; second, R. B. Postans, Esq.; third, Mr. Dennis; fourth, Mr. Plester.

Class XII. was for the best twelve trusses of yellow Roses, consisting of not less than six kinds; and the only exhibitor was Mr. Hedge, to whom was awarded a first prize for *Narcisse*, *La Boule d'Or*, poor; *Triomphe de Rennes*, *Celine Forestier*, and *L'Enfant Trouvé*, a strong sport of *Elise Sauvage*; and *Cloth of Gold*.

In Class XIII., for the best collection of yellow Roses, Mr. Hedge was again first with *Cloth of Gold*, *L'Enfant Trouvé*, fine; *Mélanie Oger*, *Narcisse*, and *Smith's Yellow*. Messrs. Paul & Son were second with *Gloire de Dijon*, *Vicomtesse de Cazes*, *Lamarque*, *Madame Falcot*, *Madame William*, *Louise de Savoie*, *Marquise de Foucault*, and *Auguste Vacher*.

Tea-scented and *Noisette* Roses, though not sufficiently varied in colour to make an effective display, are always welcome on account of their fragrance. They chiefly consisted of *La Boule d'Or*, *Triomphe de Rennes*, *Gloire de Dijon*, *Gloire de Bordeaux*, *Madame Bravy*, *Souvenir d'Elise*, *Josephine Malton*, *Engène Desgaches*, *Souvenir d'un Ami*, some fine examples of *L'Enfant Trouvé*, *Louise de Savoie*, *Homer*, *Alba roses*, *America*, *Niphetos*, and *Celine Forestier*.

Awards—For twelve trusses (Amateurs): first, Mr. Ingle; second, Mr. May; third, Mr. Hedge. For twelve trusses (Nurserymen): first, Messrs. Paul & Son; second, Mr. Cant; third, Mr. Keynes. For twelve single blooms; first, Mr. Cant; second, Mr. Hedge; third, Mr. Keynes.

Of Moss Roses only one stand was shown, that being from Messrs. Paul & Son, who were awarded a first prize. It contained *Salet*, the *Crested Moss*, *Bath White*, *Comtesse Murinais*, and one or two others.

Pot Roses formed a very effective bank, the plants being in profuse bloom, though the flowers were not individually so attractive as earlier in the season. President from Mr. Turner, and *Maréchal Niel* from Mr. Wm. Paul, were especially fine; and *Rushton Radelyffe*, *Pierre Notting*, and other recent varieties, were also well represented.

Awards—For twenty-four: first, Mr. Turner; equal second, Messrs. Paul & Son and Mr. William Paul. For twenty new Roses: first, Messrs. Paul & Son, second, Mr. W. Paul.

Miscellaneous subjects consisted of new *Marantas*, *Bertolonia margaritacea*, *Lilium auratum*, *Eranthemum argyoneurum*, having the foliage veined with white, and some other plants from Mr. Bull; and of fine *Pinks* from Mr. Turner and Mr. Bragg, of Slough, and Mr. Hooper, Bath, who also exhibited *Carnations*, *Pansies*, and *Phloxes*. Mr. Bird, gardener to the Hon. A. F. Ashley, Epping, exhibited thirty-six varieties of *Hunt's Sweet Williams*; and, as usual, from Messrs. Barr & Sngden and Carter & Co., came *Fern-cases*, plant-baskets, &c. The latter firm also exhibited variegated *Maize*, tricolor-leaved *Pelargoniums*, and very large pods of *Laxton's Perfection* Pea.

The handsome silver tea-urn, presented on the evening of the Show to the Rev. S. Reynolds Hole, stood in the conservatory in the midst of that exhibition of which he was the originator, and which, by his influence and example, he has so largely contributed to raise to a position worthy of England's national emblem—the Rose.

Mr. W. H. BAXTER, Curator of the Oxford Botanic Garden, has, we are happy to learn, been appointed to the Curatorship

of the University New Park. We understand that he hopes to be able to form an arboretum there, which will be a desirable and useful addition to the Botanic Garden, where there is not sufficient space for one calculated to be of real use.

PRIZE FOR FIFTY CUT ROSES.

At a Rose show held here on Wednesday last, June 20th, an objection was made to the first-prize collection of fifty cut Roses, on the ground that fifty-one were shown for fifty. Two fully open Roses were shown in the same truss, and this was held by the objector to disqualify the collection. The Judges affirmed their decision, at least a majority of them; but as this is the first Rose show in Jersey, they would be glad to have your opinion in the next issue of your valuable paper.—ONE OF THE JUDGES.

[The additional Rose was a disqualification, for it is a sound rule to insist upon the printed schedule being strictly complied with. There is a reason here for such strictness, because when the competition is close the award has to be decided by points, and every bloom may add to the number.—EDS.]

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE twenty-third Anniversary Meeting was held at the London Tavern on Wednesday last, the 27th ult., Sir C. Wentworth Dille, Bart., in the chair. Among those present were Alderman Meehl, Professor Bentley, the Rev. Joshua Dix, Dr. Hogg, Messrs. T. Brandreth Gibbs, R. Wrench, G. Child, Bull, Edmonds, Gibson, J. & C. Lee, W. Paul, Turner, Veitch, Williams, Cutbush, &c. After the usual loyal toasts had been given and enthusiastically responded to, the Chairman in proposing the toast of the evening, "Success to the Gardeners' Royal Benevolent Institution," said that it was an Institution which ought to be supported by the public at large, as well as by gardeners, but by neither was it supported as it should be. He was one of those who thought that the occupation of a gardener was that in which the most mind is required, and the least is obtained from the master. He would like to see the working gardener on an equality with the intelligent artisan, but that was not the case now. Take a bricklayer or a carpenter, the education required by either is small, and so, too, was their responsibility; but the labour of a gardener is great, his responsibility often heavy, and to properly carry out his duties a considerable amount of education is required; and yet gentlemen having gardens, and good gardens too, want a perfect man, and are prepared to pay him 20s. a-week! Thus it was that gardeners could not lay up much for their old age; and thus, too, it was that the Institution must also be dependant, to a considerable extent, on the more wealthy classes for support. There was a rule of the Institution—an extremely wise, extremely good, and extremely prudent rule—that a man who had subscribed for fifteen years might be admitted without an election; but that period was a long time to look forward to, and he hoped that increased funds would enable them to reduce the time to twelve years, to ten years, or even less. Some papers by Mr. D. Fish on gardeners' wages had lately appeared, and though in these the disadvantages under which gardeners labour were well stated, he differed from the writer *in toto*. The whole question of wages was simply one of supply and demand, and in this case the supply exceeded the demand. He doubted whether gardeners' wages would ever materially rise, because a number of day labourers are employed at 12s. per week, and these are continually forcing themselves upwards. Such men at 18s. per week are preferred to those at 30s. a-week, and so long as this continues to be the case wages must be low. More especially at the present crisis did he think that much advance was hopeless, for the expenses of many an establishment would be cut down to the lowest figure. What was the effect of the railway panic of 1847? Why, the amount of donations to the Institution fell to one-third of that subscribed in any previous year. The Chairman then referring to the International Horticultural Exhibition, said that about a year ago some of those present attended a meeting for the purpose of inaugurating it, and he was asked to take his part; others had been asked to take the undertaking under their wing, but the one had not the funds, and the other had not the pluck; but, said Sir Wentworth, "We (the Executive Committee), found the funds, and we found the pluck." Besides that, they had entertained their foreign visitors at the Guildhall, which the Corporation had lent for the purpose; but mind, the Executive found the dinner, and he believed their visitors had expressed their satisfaction at the reception which had been given them. The undertaking, however, was not a light one. His friend on the left (Mr. C. Lee), said that £2000 would pay the expenses; but he (the Chairman), said £12,000 would not do it. The Exhibition was, therefore, a speculation, and they entered into it, knowing that whatever might be the loss the gain would not be theirs; but they had resolved from the first, that if they did meet with success the Institution should profit by it. The Exhibition had proved an entire success, £3000 profit having

been settled, and of that sum the Committee had decided to give one-third to the Institution. The Royal Horticultural Society had been asked to take one-third of the profits for their assistance and the use of their garden, but the offer was refused, and nothing but £300 down in hard cash would do; otherwise that Society would have had £1000 also. The Chairman then read a letter from Sir Daniel Cooper, Bart., enclosing a cheque for £1000, and concluded by urging the claims of the charity, and expressing a hope that those present would raise the amount to £3000.

Mr. BRANDRETH T. GIBBS then proposed the health of the Chairman, and alluded to the services which he had rendered to the Institution, and his endeavours to forward the interests of horticulture.

The CHAIRMAN, in returning thanks, said that he did not know whether they would look upon him as a public nuisance for troubling them so often, but still he felt he must trouble them again, and tell those present that they who gave so largely, as some had done that night, even to the extent of £30, were real friends to this Society. But there were other real friends, and these were those who subscribed large sums from year to year (and no man contributes more than twice to a charity in which he does not take an interest)—these were the great friends to whom the Society would have to look for its principal support. If all would only put their shoulders to the wheel they could make it a powerful institution in a short time, and some there were who had determined to do so. As far as he was concerned, he could only say that whenever he could assist them, they might command his services. This year they had had for their Chairman one who had a windfall to announce; but next year they would have Sir Robert Peel, and he hoped that they would give him the reception which he deserved. He then proposed the health of the Treasurer, Mr. Wrench.

Mr. WRENCH, in returning thanks, remarked that on such occasions it was customary to have only three figures to the subscription total, but he was glad to see that on this occasion it had increased to four. The Institution had since the last anniversary experienced the loss of two of its Vice-Presidents, Sir Joseph Paxton and Dr. Lindley, who had taken a warm interest in it, and if all would do the same its benefits would be very much increased.

Mr. G. GODWIN then proposed "Success to the Royal Horticultural and Botanic Societies," coupled with the names of Dr. Hogg, the Rev. Joshua Dix, and Professor Bentley.

Dr. HOGG, in returning thanks, said that he had lately been so much accustomed to return thanks for the Secretaries of the International Horticultural Exhibition, that he was afraid he should have to do what history is said never to do—repeat himself. He recollected the first meeting of the originators of that Exhibition, and he thought he might safely say that they were the half dozen "men of pluck" who put down their £10 a-piece to start the undertaking; but that sum was a long way off £18,000; still, they persevered, and though at times the Committee had had their misgivings, they had borne on by a fixed resolution safely to the end.

The Rev. JOSHUA DIX, in responding, defended the Royal Horticultural Society in regard to their having required £300 to be paid for the use of their grounds and other facilities, for, said he, had the Council entered into any arrangement for contingent profits, they would have been playing with money that did not belong to them. It should be remembered that on the opening of the Exhibition, when its financial success appeared somewhat doubtful, an appeal was made to them for an extension of time in the use of the grounds, &c., and what did the Council do? They said, "We will waive all claims for an additional sum of money; we will not accept it; we grant you the extension of privilege for nothing."

Professor BENTLEY said he very fully appreciated the very kind manner in which the toast had been received. He had been connected with the Royal Botanic Society for eighteen years, and all his life with plants, but till last year he never knew the men personally who were the great plant-growers of this country, and he had formed a high estimation of their sterling qualities.

Mr. CUTLER (the Secretary), then read a list of subscriptions put down at the dinner to the amount of £280, after which his health was proposed by the Chairman.

Mr. Alderman MARCH said he considered himself an old friend of theirs, having occupied the chair in 1857. He might be accused of having been a truant since then, but the truth was he had been taken up with the Agricultural Benevolent Society, and he was sure that they would be glad to hear that it had £5000 a-year, and that there were at the present time one hundred recipients of its benefits. They had all heard Sir C. W. Dilke, and they, as well as he, knew that he was a great advocate of horticulture. At the late Show there had been £3000 profits, and £1000 had been given to the Gardeners' Benevolent Institution, but he did not see the reason why the whole £3000 should not have been given. He then proposed the "Nursery and Seed Trade," coupled with the names of Mr. Veitch and Mr. Child.

Mr. VETCH returned thanks in a very effective speech, remarking that the Committee of the International Horticultural Exhibition had shown what England could do, and what its gardeners could do. He loved horticulture because it was an intellectual pursuit, although not such a money-making business as some in the city of London, and he loved it for its own sake. With regard to the question of wages, it was a thing to be bewailed that the carpenter and other mechanics should be in a far better position than the generality of gardeners. Labourers,

it was true, helped to keep down wages, by trying to do everything and often doing nothing well; and he considered the best remedy for this state of things, the best way to secure an increase of the gardeners' wages, would be to educate him, and then employers would find it to their profit to employ the educated man. He, therefore, said, let us lovers of horticulture do all that we can, not only to increase our numbers, but to raise the standard of education as well.

Mr. CHILDS briefly returned thanks for himself and the seed trade.

"The Stewards," coupled with the name of Mr. Shaw, and "The Ladies," were then given.

Mr. JOHN GOULD VERRON having returned thanks for the ladies, the company broke up.

The room was decorated with a profusion of flowers contributed by Messrs. Lee, Turner, Fraser, Williams, and others, and there was an excellent dessert. The dinner-table ornaments were kindly lent gratuitously by Messrs. Howell & James, of Regent Street.

A WORD ON BEHALF OF SMALL ORCHARD HOUSES.

THESE useful structures have hardly met with a just criticism at the hands of writers on the subject. Whilst admitting their general inferiority to the larger houses, now so common, and for which it is safe to predict a still greater development, it would also be fair to state that in proper hands small orchard-houses may be rendered eminently useful. From the very fact of their small size they present considerations of value to that numerous class whose means are limited, and who also cannot devote much time to them. Space, too, in small gardens is difficult to spare. We have here, then, three very serious considerations—viz., time, space, and money, and these leave us much to say in favour of small structures. Let us, then, allow them their proper place in the public estimation. One thing is certain—that by the amateur doubtful of his resources they will always be selected. In large gardens they are obviously out of place, except as Orangeries, or for retarding a portion of the crop by placing them with a colder exposure, which, by the way, is the right manner of retarding any fruit.

If the small number of entries for the orchard-house trees in pots, which were submitted to Messrs. Rivers, Ewing, and myself at the Great Show was a true indication that public taste in this matter had endorsed that of some critics, all question of large versus small houses would be needless; but a round of subsequent visits to friends and others possessing them of all sizes enables me to state that orchard-houses never were so flourishing. In one case an amateur, with the aid of a rough workman or two, manages alone an immense house 250 feet long, and can show as good fruit as need be expected, and pruning so equal as to be unsurpassed. He is about to lengthen this house to 500 feet, and there is no reason why he should fail with this lordly house, but, rather, there is every chance of greater results. This case establishes what amateurs, really in earnest, trusting to their common-sense principles, and employing only the same amount of skill as is shown by so many lady florists, can do with large orchard-houses.

In the second instance I was shown by an amateur of very limited means what can be effected by careful attention with extremely small structures for growing fruit. In his small garden, where every available space was carefully economised, were two small span-roofed houses. The oldest of these, some ten years old, was only 18 feet by 9. To the ridge was only 7 feet; the sides were 4½ feet high. This stood east and west. The other house was 16 feet by 12, and had ventilating shutters 1 foot wide, all round, and others at the top, at each end. This house stood north and south. The whole number of trees was no less than eighty (chiefly pyramids in 13-inch pots), and consisted of Peaches, Nectarines, Plums, Pears, and choice Apple trees. By the different position of these houses, and by plunging a portion of the Plums in the open ground during the last week of June, a succession of fruit was secured, and more room given to the Peaches to ripen. The crop looked fine, and the foliage was without a stain, so that this amateur will probably have more Peaches than can be found on many an extensive wall, this evil year of blight, and bloodshed. Without these houses what chance would he have had of choice fruit in a small, unwall'd garden?

At Sawbridgeworth, also, where I stayed two days, were houses 100 feet long, and but 7 feet high to the ridge, yet they were full of fine pyramidal Apricot trees, well loaded. My first house was but 30 feet long, and is still very early. It has defects enough, no doubt, but it is always full of Peaches. The

which then seems to be, that amateurs, by ordinary attention to well-known rules, ought to manage small as well as large orchard-houses, without much difference in trouble.

Peaches on the open wall can this year be counted without any difficulty, but in all the orchard-houses I have seen there is a good crop. This is a fact worth many words.—T. C. RAFFAULT, *Richmond House, Guernsey*.

COUNTRY SCRAPS.—No. 1.

It was in the little village of Bixsted, Essex, that I first found a fungus which I have never since met with. It was a damp day in autumn that I was wending my way through a short lane which ran near our own quiet church—certainly possessing various characteristics of architecture, but neat and cleanly within; and I was pondering upon the still resting-place of my young mother, who with her baby boy lay in that small portion of ground known as "God's acre," awaiting the summons of the Master of the flowers there cut down and withered, to awake to renewed life under the resuscitating beams of the Sun of Righteousness. Thinking, too, I was of the glory and happiness of those two souls who walked in holy communion through those fields of light and love above; and from the contemplation of this heavenly region I came back to the realisation of the fact that I must put aside my day dreams, and close my eyes to the magic mirror that was in the soul within me and grapple again with the world, all motherless as I was; and it is a hard world for a woman to fight her way in, and sometimes the case is even harder where

"Men must work, but women must weep."

To sit still and weep is destructive to mind and body: therefore if it be but to sweep the house, rather work; it will keep the brain from weeping itself out before the body, which is the most pitiable case in nature. But, as I was saying, I gave up useless regrets, and being but a maiden in my teens, I was not very likely to let "grief prey on my damask cheeks." No, I rather held the motto that care killed a cat, and so betook myself to the amusement of seeking in the dripping bank close by for what I was always expecting and hoping to find—something unknown to the botanical world. What a grand day this would have been for me to come upon the "philosopher's stone." Had I been a man I should have attached myself to some exploring expedition; but Nature not favouring me in this line, I more humbly enjoy my own quiet depredations in our own English hedgerows. That day, however, I did find something, and something which a subsequent letter from Professor Henslow led me to believe was not so very common. How my young heart bounded for joy when he requested that "the young lady would kindly procure more specimens if any were to be found, and send them to him packed carefully in a box, as the Curator of the Ipswich Museum only possessed two of these fungi, and possibly another year they might altogether disappear from the spot where they were gathered." He described the specimens as those of the Starry Puff-ball. The part which contained the "puff," as we children called it, he, I remember, designated as "the furnace." Of course my hat was soon donned, and off I went with a small basket. I found a few more plants in the same locality, but no more in that lane, although I searched both sides of it. This fungus is entirely concealed by the vegetation around, and therefore, perhaps, is it found so rarely. Finding its haunt was amongst rotten sticks and decayed leaves, I thought I would search a bank beneath a large Hawthorn tree which stood near our house, and which answered that description, and there, to my infinite delight, I found quite a nest of my treasures. My basket was soon filled. Perhaps I sent the Professor a dozen and half of these fungi, keeping also some for ourselves. I remember the peculiar appearance of these strange plants very well: some of them had five and some four segments, like legs descending from "the furnace," and meeting five or four (as the case might be), other divisions ascending from the earthy-looking foundation from which they rose. We kept some of the specimens in a china saucer upon the chiffonière in the drawing-room, and they awoke the curiosity of all who saw them, whether botanists or not. I dare say the Curator of the Ipswich Museum no longer complains of a paucity of specimens.

I have somewhere read that there is a peculiar narcotic property in the fumes of the common Puff-ball when burnt, and that it has been used on this account to take the honey from hives without destroying the bees; but whether it is still so

used I am unable to say. I have seen farmers stooping to secure some of the powder from these fungi, using it as a styptic to prevent the bleeding from a recent cut; and I know a country gentleman who always kept a small stock in reserve in the neighbourhood of his shaving chattels, to resort to in that unlucky moment which comes alike to the strongest and weakest-minded of our "lords," when putting that last dainty touch in the maternal beautifications which would have been "all well had it ended well," as old Shakspeare hath it, but which, on the contrary, was productive of the keenest cut of all—a cut which wounded physiognomy and vanity at the same time. Maternal Nature, however, comes to the aid of all but suffering children; and from the simple bosom of the earth we may on all sides possess ourselves of the necessary curatives if we only know where to seek them, and will not, as we so often do, "despise the day of small things." The humble cottager frequently knows more of the uses of the plants and herbs around her than we who consider ourselves the more enlightened portion of the community ever dream of. They may be called old wives' nostrums, but after all there is often a medical virtue which would warrant further research. In the wilder parts of Yorkshire the gude dame seems often in requisition with her homely medicaments, and marvellous tales are told in the peculiar northern dialect of miraculous cures thereby effected. The narratives, however, lose so much of their pith from the recapitulation in our southern tongue, that I will not pretend to detail them.

Speaking of Yorkshire, although my visit there has been too late in the season to aid me in making any fresh additions to my hortus siccus, still from friends living in the county I have gathered details of several plants which are, perhaps, rather local, but which abound in some parts of that rich botanical shire. The *Narcissus biflorus*, Pale *Narcissus*, is mentioned by Henry Baines, Sub-Curator to the Yorkshire Philosophical Society (1840), as being found "in a field in which is a stone quarry, on the left of the high road to Aske from Richmond; at Thornborough, near Thirsk; near Rotherham; near Horwary church; near Ripon; in meadows at Sowerby and Warley, near Halifax." Certain it is that in a meadow a short distance from York there are bulbs of this uncommon plant. In the spring it throws up its pale and delicate flowers. My brother's gardener was upon the point of removing the plants to his newly laid out garden; fortunately, to prevent this desecration, the Rev. botanist appeared upon the spot, and forbade the unhallowed act. My brother had his doubts whether the bulbs might not have been thrown out with manure from some garden; but upon consideration he withdrew this idea, as the fields had for a long time been used only as pasture for cattle, and there was no garden in their immediate vicinity.

Another plant which is not very common in the south of England, although it has been found in Norfolk and Suffolk, is the Giant Bellflower, *Campanula latifolia*. In Yorkshire it finds many habitats. Some very fine specimens are to be found in a ditch in Clifton "ings." These "ings" are meadows lying close to the river which runs through the old city, and forms such a picturesque scene when viewed from one of the bridges which span it. The *Campanula latifolia* is also found near Fulford church, at Roche Abbey, and in many other parts of this county. A crop which is quite unfamiliar to my southern eye, and which was just beginning to cover some fields, in which it was pointed out to me, was that of numerous healthy-looking Teazels. The appearance which they present is that of a field of young Thistles. Of course their well-doing is a matter of anxiety in the large cloth-making districts in the north.—A SURGEON'S WIFE.

DUTY-FREE TOBACCO FOR GARDEN PURPOSES.

THE "Richmond Cavendish Company," to enable them to prepare a cheap composition for fumigation and other garden purposes, have applied to the trade and others interested in horticulture to sign petitions to the Lords of the Treasury and Commissioners of Customs, asking that Tobacco may be duty free for such purposes. Such remission of duty would, of course, promote the trade of the Company, but it would also be advantageous to the gardening community, therefore we recommend the petitions to the support of our readers. The following is a copy:—

"To the Lords of the Treasury.

"We, the seedsmen, florists, nurserymen, market gardeners,

and others, interested in horticultural pursuits, respectfully submit to your Lordships, that we may be permitted to use Tobacco in the form of pastilles, free of duty, for the purpose of fumigation, in order to destroy the insect vermin which are so injurious to plants and trees.

"Various preparations have been tried, but it is well known, that Tobacco is, of all other things, the most efficacious; and it would be extensively used if its high cost, owing to the duty levied upon it, did not make it too expensive an article for general application.

"In praying that this petition be granted, your petitioners would most respectfully point out, that similar concessions have been made in other cases, the use of rum in methylated spirit, and of Tobacco, for sheepwash, having been granted under circumstances of a similar character.

"The objection that the use of Tobacco, free of duty, for horticultural purposes might prove injurious to the revenue, could no doubt be met by imposing such restrictions on the mode of preparing the Tobacco in bond, for the pastilles, as would entirely prevent the possibility of its being employed for any other than the purpose for which your petitioners respectfully ask permission to use it. The method we would propose is to grind a proportion of two-thirds of Tobacco together with one-third of common soot and fish oil; or to add such other ingredients as the chemist to the Government might suggest for the more effectual destruction of the Tobacco.

"In the event of your Lordships kindly granting the prayer of your petitioners, you will confer a favour of great value to a large class of persons connected with horticultural pursuits in this country, and a favour which will undoubtedly prove a general benefit to the public.

"And your petitioners will ever pray."

HYDRANGÆA HORTENSIS FOR OUT-DOOR DECORATION.

PERHAPS no plant has been more generally cultivated than this variety of *Hydrangæa* since its introduction by Sir J. Banks. It is a very imposing plant when seen in its smallest form in the Covent Garden style; but when seen out of doors in autumn, 7 feet high, in the form of a large shrub, with thousands of monstrous flowers resting on fine broad green leaves, it presents the grandest subject that can be seen in our climate in connection with the flower garden, or decorating the margin of ornamental water, where it is most at home. The propagation of this plant is so simple, and its culture in pots so well understood, that I will not intrude with remarks on anything save what relates to its out-door culture.

It is frequently asserted that the *Hydrangæa* will only succeed in favourable localities near the sea. In the west of England and south of Ireland it may be seen with large shrubs, flowering freely without any protection; but it may also be seen thirty miles inland quite as fine by some attention to culture. The *Hydrangæa hortensis* is a wonderful plant to suit situation; it may be seen in monstrous cymes on a wall facing south. On a north wall it will flower equally grand, although not so abundantly; under the branches of trees, on the edge of a pond, or planted on a rock it will flower profusely. It must not be inferred from this that good culture is not necessary; there is no common plant on which high culture will tell more strikingly.

In commencing with young plants, the practice here is to grow them on a bed of loam and peat in a rough state; the plants are planted on the surface, and mulched with rotted dung and watered as frequently as circumstances will permit. The plants are removed and protected in winter until the wood assumes a shrubby character, when they are permanently planted out, or kept in borders, and regularly transplanted to suit requirements.

In a climate where frost would destroy the annual shoots the plants may be taken up and put into any sort of shed with straw, or any other thatch, to keep out frost. In this sort of treatment it is important to maintain the vigour of the plants, and to this end it is necessary, when the plants are laid in, to pack firmly moist earth about the roots. No more trouble will be required until the latter end of May, when the plants may be put into summer quarters, when the weak shoots should be freely thinned out, and the beds well watered. The *Hydrangæa* will flower but sparingly if planted deep. Surface-feeding will produce the best result in flower, and prevent the weakly shoots that are sure to come from deep

planting. Our practice here is to top-dress heavily the large plants with rich pond mud about the end of May, and this treatment has lengthened the continuation of bloom. Water is the great element of success in cultivating the *Hydrangæa*. In many places where flowers are cultivated that element is scarce, but in special cases deep pits may be dug and filled up with peaty sods or other spongy materials: this has been done here with success. Some of the pits were dug out 6 feet deep, the hole filled in with rough sods, on top of which was put a layer of stiff clay, on which was put a layer of rotted dung, and *Hydrangæa* planted over the surface-level. The object of the pits is to secure uniform moisture. The plants are a large size, and flower to admiration. I have tried with various earths the changing of the flowers from pink to blue. I have found the same result in pure clay, pure peat, and in the simple bodies; experience forbids me giving any decided opinion on this matter. Some of the American varieties of *Hydrangæa* thrive well here, and are very beautiful hardy-flowering shrubs. The *Hydrangæa japonica* is no use out of doors.—CHARLES M'DONALD, Woodstock, Co. Kilkenny.—(Scottish Gardener.)

[The late Mr. Donald Beaton told us that "Cuttings of the *Hydrangæa* made in February may be made to flower blue or pink at will. If the mother plant produced blue flowers in the former seasons, and you force it in February, out off your cuttings as soon as they make three joints, and when they are rooted place them in a rich, light compost, say one-half leaf mould or very rotten dung, and the rest of any good garden soil, they never fail to produce pink flowers; whereas, if taken from a pink-flowering parent, and after rooting you grow them in strong yellow loam, with about a sixth part of iron filings, mixed with it instead of sand, nine out of ten of them will produce blue flowers. I have proved this over and over again, and have seen it in other hands, but I never could get an August cutting to differ in colour from that of the parent plant. The reason seems to be that the juices of the parent plant have already, by a season's growth, formed the substance, or the organised matter, as the physiologists call it, out of which flowers are produced, so that no after-treatment is able to counteract the effect; whereas cuttings separated from a plant at so early an age as when they only attain a few inches in length, and are then made to grow in iron rust and loam otherwise impregnated with iron, which is well known to favour the production of blue flowers in the *Hydrangæa*, the organised matter referred to is formed from juices impregnated with iron oxide, and so produces blue flowers. The intensity of the blue is, I believe, according to the perfect oxidation of the iron. Chalk water never fails to counteract this effect of the oxide on the flowers, as we have often proved here, so that, to give the fairest chance to the experiment of getting blue *Hydrangæas*, I would recommend the cuttings to be taken as early in the spring as possible, to strike or root them in red sand, to grow them in nothing but red loam and iron filings, according to the above proportions, and never to water them but with rain water; but I am not sure whether rusty water from hot-water pipes would not add to the success of the experiment; at any rate this rusty water is not injurious to these *Hydrangæas*. In some parts of the country the natural soil will produce blue *Hydrangæas*, and in such places it is difficult to meet with pink ones; and, what is singular enough, the *Rhododendrons* will flourish in such soil, although apparently devoid of all traces of vegetable matter. There is also a kind of peat earth which invariably turns the pink to a blue *Hydrangæa*, but all the peat that we have access to here (Suffolk), does just the contrary."]

ENTOMOLOGICAL SOCIETY'S MEETING.

THE June meeting of this Society was held on the 4th ult., the President, Sir John Lubbock, F.R.S., &c., being in the chair. Count Mniszeck, of Paris, and Messrs. Salvin and Turner were elected members of the Society. Amongst the donations received since the last meeting were the "Transactions" of the Society of Natural Sciences of Philadelphia, the Smithsonian Institute, the Stettin Society of Entomology, &c., including new Memoirs on the Coleoptera of North America, by Dr. J. Leconte; the "Genera des Coléoptères" of Duval, and the work of the Rev. Hamlet Clark on the Phytophagous Beetles, Part I.

Dr. Wallace, of Colchester, the author of the Society's prize essay on the cultivation of the new *Ailanthus* Silkworm, just published, communicated a note on the colours of the larvae of that species, and some observations on the new Oak Silkworm, *Saturnia Yama-mai*, from Japan. Professor Brayley forwarded some extracts from the Report of Consul Zohrab on the trade of Bordinak for 1886, trans-

mitted to the Foreign Office, and recently presented to Parliament, containing a notice of the ill effects produced by the bite of a large black venomous species of Spider which appeared amongst the Wheat at harvest time, and had bitten more than three hundred persons, the bite being followed by a hard white spot, which, when cauterised, produced a new wound; ordinarily the Spider fed upon Locusts. Mr. McLachlan communicated a note on the cocoon of a species of Caddis Fly (*Limnephilus* sp.), which, although originally formed by the larva beneath the surface of the water, had gradually been raised to the height of 2 feet above it, causing the enclosed pupa to dry and shrivel up, thus exhibiting a fault in the instinct of the larva not often observed in the insect tribes.

Mr. Pascoe exhibited a number of minute Beetles collected by the Rev. G. Bostock, of Freemantle, in Western Australia, chiefly in Ant's nests, several of which are of very great interest, belonging to the genera *Articurus*, *Anthicus*, *Ptinus*, and a new genus apparently allied to *Pausanias*, of which he read descriptions.

Professor Westwood exhibited drawings and read descriptions of some new Goliath Beetles from tropical Africa, chiefly from the collections of Count Mniszeck and J. Aspinall Turner, Esq. Mr. Stainton exhibited a specimen of a minute Moth, *Gelechia leucomelanella*, which he had succeeded in rearing from galls found upon *Gypsophila saxifraga* at Mentone in the spring. Mr. C. A. Wilson, of Adelaide, South Australia, communicated a further portion of his notes on the Buprestids, &c., of New South Wales.

RAIDS AFTER FERNS.—No. 5.

HAMPSHIRE.

"We go to town every year." Yes, in these days one cannot aspire to anything like gentility without the above warranty. One must go to town every year; one must risk one's life in the streets, be stifled in academies, buy "best bonnets" for flower shows and fashionable churches, even supposing one be sufficiently strong-minded to resist opera and ball. Yes, the sacrifice must be made, and the time to offer it on the world's altar is just the very time when nightingales are making the woods vocal with their song, when the trees are robing themselves in fresh young leaves, and flower after flower peeps up in meadow and copse from its wintry hiding-place. When Nature, in obedience to her Maker, is busiest in decking out her pleasant places for our gratification, we run away from her in thankless indifference, and will not watch her movements or listen to her pure voice.

I usually take my London life very much as I take a tonic—an occasional tea-spoonful in a very large dose of country; and how glad I am to turn away from the dreary round of noise, and bustle, and sin that those great streets disclose none can tell. Each station that places a barrier of so many miles between us is hailed with delight. I look out of the carriage window and nod my head at my old companions of forest and field, as if years instead of days had separated us.

From London, at her busiest and noisiest, I escaped into the bright pure air of Hampshire, the noise of the roll of carriages giving place to the gentle whisperings of the wind amongst Beech and Fir, to which I listen in lazy enjoyment from a hammock along Indian fashion between trees. Presently I hear the tramp of little feet and the sound of merry voices, together with sundry discordant bells and clappers, and a general shout of "The bees! the bees!" A knowing twist of the hammock, and I, too, armed with a watering-pot and a stick, am serenading a fine swarm, till from a splendid Rose bush they are safely hived in their straw dwelling-place, beneath the friendly shade of a fine *Ailanthus glandulosa*.

What flower shows and morning concerts are to the town, that are bees to a bee-keeping country. No other excitement is needed. Always swarming, or going to swarm, always being hived, or being lost and skirmished after, they are the one thought uppermost in men's minds. Even places of worship are not exempt from the prevailing epidemic, for hatless heads and smock frocks peep mysteriously in at half-open doors, beckoning to other smock frocks that rise and disappear with that peculiar noise of clumsy stealthiness that is so dear to Hampshire-loving ears; and after church, mayhap, it is only "the parson's bees as were a-swarming"—an event in which all the community most heartily sympathise. Yet in the very teeth of the bees I had my raid. A few minutes' walk, and I was in Havant "Thicket," sacred at present to Ferns, wild flowers, and adders.

There are a hundred paths leading into the mysterious fastnesses of Havant Thicket, each diverging into the other, till the unwary traveller gets involved in a mesh of thread-like ways that lead him into quags, and bogs, and adders' homes in most uncomfortable fashion. A good hunt in the thicket, how-

ever, is worth all the peril, for it is full of treasures. Here and there I found a space covered with a very small Myrtle-like Willow, with dark shining leaf and woolly catkins, which looked like a bog Myrtle, on which innumerable caterpillars had spun their nests, trailing over the ground. In the neighbourhood this plant is called the "Flowering Willow," and is supposed to be rare: I should (perhaps ignorantly) set it down as the *Salix arbuscula*. Near to the Willow, growing in great profusion, was the *Genista anglica*, its sharp thorns painfully reminding one that it was *anglica* and not *tinctoria*, for which I searched in vain.

Parasitical upon the shrubs we found, but not frequently, *Orobancha rapum*, while growing on every side were *Listera ovata*, *Orchis maculata*, and *Habenaria bifolia*, the latter scenting my Fern-bag with its rich perfume. But not alone did *H. bifolia* scent the bag, for wandering further into the thicket one came on a large bed of Lilies of the Valley!—must I call them *Convallaria majalis*? Yes, I will, for I hold that if none but Latin names were in use for all plants the science of botany would be greatly simplified, and bad memories would not be hampered with two exertions instead of one. At any rate, lying in their greenwood bed there the pure white flowerets were ringing their bells to the wild bees' song, and looking to my mind's eye so like a hundred things they most surely were not, that I could but sit down on the branch of an old tree and hold short speech with them before I dragged them from their lurking-place into the rude gaze of the world.

Not far from the Lily-bed there was a pool bordered with *Myosotis palustris*, while trailing over the Briars was the little *Lysimachia nemorum*, the *L. nummularia* completely covering the ground, though the blossoms were not yet opened. Of the commoner wild flowers, every little nook, every sunny glade, bore bright evidences. In some places the earth was rose colour with *Pedicularis*; in another blue with *Polygala*, while every now and then our crushing feet caused the *Mentha sylvestris* and *Thymus serpyllum* to emit a strong and pleasant odour.

And at last the Ferns! In days gone by I have often said, "Oh, nothing grows in Havant Thicket but *Pteris* (only in disdain I called it Bracken); but now I know better, and I look forward to many a successful raid amongst the adders. First, there was *Lastrea montana*, but as I only saw two plants of it during several walks, I conclude that the soil or air of the Thicket is not congenial to it. I wonder if I might here be allowed to enter a trembling protest against this Fern being placed amongst the *Lastreas*, with which it appears to me to have little affinity, its usually naked clusters of round sori pointing rather to *Polypodium*.

Abounding in the Thicket was *Lastrea cristata* var. *spinulosa*, while of *Lastrea dilatata* I saw but very little. *L. cristata spinulosa* is always a trouble to me, and that in many ways. If it be a simple variety of *L. cristata*, having no pretensions to rank amongst species, how is it that it is found growing in profusion where its original parent has never been heard of? If I understand species aright, I shall not be satisfied till the wandering habit of *L. spinulosa* can be explained. Perhaps I may yet find *L. cristata* in Hampshire, or, perhaps, I may live to see *spinulosa* in the family of *L. dilatata*.

In this particular raid I was charmed with the different forms assumed by the *Pteris aquilina*. I found it in its variety *vera*, and in many cases it was also considerably forked, assuming the appearance of *multifida*. Of *Filix-mas* there were several plants of a supposed variety, for which Mr. Wollaston is claiming the honour of a separate place amongst species, under the name of *Lastrea propinqua*. It differs considerably from the normal form of *Filix-mas*, and has many varieties or sub-varieties of its own.

Not far from the Thicket there is a beautiful hunting-ground called the Holt, where noble Beech trees tower towards the heavens, and the earth at their feet is covered with the white blossoms of *Asperula odorata*; where *Digitalis* of the tallest, and *Prim*—(I must say)—roses, of the loveliest abound, and there I found a very curious variety of *Filix-mas*, lax in growth, pale in colouring, and irregular in form of pinnule. I have not yet had it named, for I have yet to prove that I am the first who has noticed it.

Besides the *Lastrea Filix-mas* there are several good varieties of *Athyrium Filix-femina* growing in the Holt, and many a beautiful wild plant, I may not stay to enumerate. Even during the time bestowed on the *Filices*, the bees have swarmed for the third time, kettledrums have sounded a retreat, and the scattered forces are dispersed for ever.

From Havant Thicket I passed on to Stoke's Bay, and as I sat upon the beach watching the "Pearl" steaming up and down the Bay, in sight of the fair Lake of Wight, I gathered close by my side the handsome yellow *Glaucium flavum*, *Sedum anglicum*, *Statice armeria*, *Hieracium pilosella*, the silvery *Potentilla anserina*, and many another little flower which gladdened the sandy waste by its bright presence, while the neighbouring corn fields were brilliant with the deep blue of *Centaurea cyanus*, and the fiery *Papaver rhoeas*.

I noticed in the hedges *Polystichum angulare*, but I did not make any particular search till I arrived in the neighbourhood of the New Forest, where, in many a grassy lane and sheltered hedge, I knew that I should be rewarded by finding Ferns of many species, and, as I hoped, of many varieties. I remembered how in days gone by, the adders and I had glided in and out amongst Bracken and silvery Birch and Hornbeam, attracted by the same sunbeams playing on our path, and each darting away scared at the other's presence. I remembered the tall *Lastreas* in the Embley Wood, and how I had sat down there on a stile, puzzling with rueful face over different species which to my untutored eyes would not seem distinct. I remembered the deep blue of the undulating distance transformed into liquid light as the rich gleams of the setting sun fell upon it; the sheltered nooks, with the pretty cottage, and the gleeful children playing about the doors; the white bloom of the "merry" trees. I called to mind the tall *Osmundas* of the forest; the green banks of *Asplenium adnigrum*; the ditches of *Blechnum spicant*, together with the fair waters of the Rhododendron-bordered lake, where for the first time I had found the bright *Narthecium ossifragum*, and over whose surface, when frozen, I had been many times ignominiously skated in a chair. I knew the home of *Lastrea montana*, and the lanes where *Polystichum aculeatum* would leave no room for anglers. I had heard how *Asplenium trichomanes* had gradually retreated from its old haunts to more out-of-the-way localities; so, armed with my trowel and my bag, I had little else to do than to rush off to the different spots, collect what I required, searching as I went for anything new.

I found no *Lastrea cristata* var. *spinalosa*, but I did find a handsome form of *Lastrea*, of which one of our best Fern authorities writes—"This *Lastrea* is one that has puzzled me a great deal, and I have often in the lake district gone up to it believing it to be an *Athyrium*, and then found out my mistake. Whether it is a species or a variety of *propinqua* (I think certainly not of *Filix-mas*), I cannot yet determine. It is deliciously hay-scented, which is different to the other forms."

Of *Athyrium Filix-femina* I found a beautiful variety, in form like *odontomanes*, but more delicately chiselled. I have long cherished a hope that eventually what is now called the variety *odontomanes* may be recognised as a species, and a separate place in Fern-dom be assigned to it.

Should my *Athyrium* prove worthy, I shall dedicate it to Miss Florence Nightingale, for it grew where her footsteps must have often fallen as she walked to and fro on her errands of mercy.—FERN-HUNTERESS.

NOTES ON TRUFFLES AND TRUFFLE CULTURE.

BY C. E. BROOME, ESQ.

THE numerous varieties of Fungi that are exposed for sale in the markets of France and Italy must induce a feeling of surprise that so little attention has been paid to their culture by the horticulturists both of Great Britain and the Continent. The Mushroom is the only species at all commonly made use of in this country; the Blewit may sometimes, indeed, be seen in Covent Garden, but it is a species far inferior in flavour to many others of our Fungi, and it is certainly not the produce of our gardens. Truffles, which are frequently seen, and so highly esteemed in continental markets as to command a high price, are comparatively rarely to be met with in our own, and even Covent Garden can boast but of one native kind, and that an inferior one—viz., *Tuber sativum*. There are, however, various reasons for this neglect of Nature's benefits that operate with us, that do not apply with equal force to our continental neighbours, such as distressing cases of poisoning from the indiscriminate use of Fungi gathered by persons ignorant of the qualities of the various species, a danger in great measure guarded against abroad by the appointment of an official person capable of determining the noxious or innocent nature of the species brought for sale. What tends, however, still more,

perhaps, to increase our objection to their use, is the natural inaptitude of our countrymen to acquire the art of cookery, which is a very important element in suiting these plants to human digestion; added to which, there is the difficulty of adopting new customs, or changes of diet. Were a taste for these productions, however, once established, we should soon find numerous species brought forward as valuable additions to our means of sustenance.

Notwithstanding that Truffles have been considered articles of luxury, and have commanded a high price from the time of the Romans down to the present, and that it has ever been the aim of horticulturists to bring them into the number of regular garden crops, they seem hitherto to have defied all efforts to reclaim them, and to resemble, in their intractable disposition, the wild ass, "whose house has been made the wilderness, and the barren land his dwellings, who scorneth the multitude of the city, and the range of the mountains is his pasture." If this, then, be a correct representation of their character, it is a question whether it would not be easier to cultivate them by assisting Nature in her own way, than to restrict her within our limits by forcing these denizens of the forest to occupy a place in our kitchen gardens. It would seem, indeed, that the amount of shade they demand is such as to be incompatible with the requirements of a garden. But let us see what has been done hitherto in the various endeavours made to grow Truffles by the assistance of art. And here we cannot do better than give the information with which the Messrs. Tulasne present us in their beautiful work on Hypogaeous Fungi. They mention four species of Truffles exclusively in use in France—viz., *T. melanosporum*, *T. brumale*, *T. sativum*, and *T. mesentericum*, of which two, or perhaps three, occur in Great Britain. *Tuber sativum* is apparently the only species to be met with in a recent state in our shops; *T. mesentericum* may at times occur, but it has not yet been noticed there. *T. brumale*, if our plant is identical with Tulasne's, has hitherto been found in England of too small a size to be worth sending to market. In Italy there are other kinds, one of which, *T. magnatum*, commands a higher price than any other; and in the southern parts of Italy, Sicily, Syria, and Africa, another species, *Terfezia leonia*, is of common use as an article of food.

The true Truffles have rough seeds, which, seen under the older and imperfect microscopes, resembled somewhat a Truffle in miniature, and early writers concluded that the mature plant was merely one of these seeds largely developed in all directions. The Tulasnes have proved, however, by careful observations that they germinate in the same way as do those of most other Fungi—viz., by giving origin to delicate threads, which spread in the surrounding soil, and that from such threads the young Truffles arise, probably after some kind of impregnation, which is as yet, notwithstanding the researches of recent observers, involved in obscurity. The fact of the existence of a mycelium in Truffles, resembling that of Mushrooms, must be taken into consideration in any attempt that may be made to cultivate them.

The soils in which edible Truffles are found in France are always calcareous or calcareous clays, which accords generally with my own experience. *Tuber mesentericum* occurs, however, in ferruginous sands, as is also the case with another species, *Hydnokrya Tulasnei*, which, or a closely allied kind, is largely eaten in Bohemia, under the name of *Cserwena Tartoffle*. Messrs. Tulasne describe the soil of a Truffle district near Loudun, Vienne, as composed of rolled fragments of calcareous matter, mixed with fine quartzose sands, lying on a thick bed of compact marly clay, which easily splits up into thin layers. It contains, in 1000 parts, 500 of calcareous matter, 325 of clay and iron, 150 of quartzose sand, and 25 parts, more or less, of vegetable mould. But they attribute a still great influence in the production of these plants to the presence of trees—a condition necessary perhaps to their growth, in order to keep off the heat of the direct sun-rays. Our authors testify, indeed, that this is not always indispensable; and I have seen Truffles dug up on the bare sloping sides of the Italian mountains.

Some persons have supposed that these Fungi are parasitic on the roots of trees. This the Tulasnes expressly deny, on the strength of observations and inquiries instituted to that end, and I can confirm them in this matter, and would remark that the frequent presence of certain galls attached to the small roots of Oaks, resembling young Truffles so strongly as often to deceive me for a time, may have given origin to this error.

Some trees appear to be more favourable to the production of Truffles than others. Oak and Hornbeam are especially mentioned; but, besides these, Chestnut, Birch, Box, and Hazel are alluded to. I have generally found *Tuber aestivum* under Beech trees, but also under Hazel; *Tuber macrosporum* under Oaks; and *T. brumale* under Oaks and Abele. The men who collect Truffles for Covent Garden obtain them chiefly under Beech, and in mixed plantations of Fir and Beech. The Truffle-grounds of France are remarkable for the sterility of the surface, the cause of which has given rise to many conjectures—viz., that Truffles exercise a prejudicial influence on all plants in contact with or proximity to themselves, by appropriating their nutriment in a manner similar to the *Rhizoctonia*; but a more probable reason of this sterility is the frequent digging to which the Truffle-grounds are subjected by the collectors; for, as Truffles are not truly parasitic, it would attribute an inconceivable amount of influence to their mycelium to suppose them capable of its means of destroying all the surrounding vegetation. And we may remark, that some species occur in grassy places, as in the forest of Vincennes, according to Tulasne; and so with *T. macrosporum* and *T. brumale*, as I find them. It seems to be a better explanation of this sterility, so generally accompanying Truffles, that they can only succeed well where they find a comparative freedom from other vegetable growth, arising from causes independent of themselves, and that they are the result, and not the cause, of this sterility.

In common with many other Fungi, Truffles do not bear to be disturbed in their early stages; so that the collectors are careful in their researches after the summer species, as *T. aestivum* and *T. mesentericum*, not to stir the ground more deeply than is absolutely necessary, as by so doing they would destroy the winter crop of the more valuable kinds, *T. melanosporum* and *T. brumale*. Any disturbance of the soil in winter, when the latter are mature, does no harm, but rather aids in their culture, by rendering the mould more suitable for the germination of their spores and the growth of their mycelium. From Messrs. Tulasne's observations it would seem that three or four months suffice for the development of these plants; they state that they have met with *Tuber mesentericum* about as large as grains of Millet in the beginning of October, which must acquire their full size before the end of December; for about that time they find this species in its mature condition alone. And it is supposed that the warm rains of August are highly conducive to the fertility of the Truffle-ground, and that the abundance or scantiness of the crop depends very much on the nature of that period. These plants grow without any special care or tendance; but as they are not unfrequently found, both in France and Italy, on the borders of corn fields, where they are ploughed up in the cultivation of the land, it would seem that they succeed as well in ground that has been stirred and manured as in that which has been left to its natural condition.

Some notion may be obtained of the extent to which the trade in Truffles is carried in France, when we read that in the market of Apt alone 1600 kilogrammes (about 3500 lbs.), are exposed for sale every week in the height of the season, and that the lowest estimate of the quantity sold during the winter amounts to 15,000 kilogrammes (nearly 33,000 lbs. weight). According to another account, the Department of Vaucluse yields from 25,900 to 30,009 kilogrammes annually. The vast quantity that must, therefore, be procured and sold in all the French provinces where they grow, and the large revenue arising therefrom, should be a great inducement to the proprietors of suitable localities to attempt their cultivation in England.

Many trials have been made to subject these vegetables to a regular system of culture, but hitherto without success. We owe to the Count de Borch and to M. de Bornholz the chief accounts of these attempts. They inform us that a compost was prepared of pure manure and vegetable soil, mixed with dry leaves and sawdust, in which, when properly moistened, mature Truffles were placed in winter, either whole or in fragments, and that after the lapse of some time small Truffles were found in the compost. But the result was discouraging rather than otherwise. The most successful plan consisted in sowing acorns over a considerable extent of land of a calcareous nature; and when the young Oaks had attained the age of ten or twelve years, Truffles were found in the intervals between the trees. This process was carried on in the neighbourhood of London, where Truffle-beds had formerly existed, but where they had long ceased to be productive—a fact indicating the

aptitude of the soil for the purpose. In this case no attempt was made to produce Truffles by placing ripe specimens in the earth; but they sprang up of themselves, from spores probably contained in the soil. The young trees were left rather wide apart, and were cut for the first time about the twelfth year from the sowing, and afterwards at intervals of from seven to nine years. Truffles were thus obtained for a period of from twenty-five to thirty years, after which the plantations ceased to be productive, owing, it was said, to the ground being too much shaded by the branches of the young trees, a remedy for which might have been found by thinning out the trees; but this would not be adopted till all the barren tracts called "galluches," had been planted. The brushwood, by being thus thinned-out, would be converted into timber trees, and the Truffle-grounds rendered permanent, like those of Poitou, which are commonly situated under the shade of lofty trees. It is the opinion of the Messrs. Tulasne that the regular cultivation of Truffles in gardens can never be so successful as this so-called indirect culture at Loudun, &c.; but they think that a satisfactory result might be obtained in suitable soils by planting fragments of mature Truffles in wooded localities, taking care that the other conditions of the spots selected should be analogous to those of the regular Truffle-grounds; and they recommend a judicious thinning of the trees, and clearing the surface from brushwood, &c., which prevents at once the beneficial effects of rain and of the direct sun-rays. It is added that this species of industry has added much to the value of certain districts of Loudun and Civray, which were previously comparatively worthless, and has enriched many of the proprietors, who now make periodical sowings of acorns, thus bringing in a certain portion of wood as Truffle-grounds each year. At Bonardelaine, for instance, the annual return from Truffles in a plantation of less than half an acre, was from 24 to 25. Another case is adduced in the arrondissement of Apt, where several proprietors have made plantations: the trees are left about 5 or 6 yards apart; and so soon as their branches meet and shade the ground too much, they are thinned-out.

The districts of England especially suited to produce Truffles would thus appear to be situated on the great band of calcareous beds which run diagonally across the island from the south-eastern corner of Devonshire to the mouth of the Wash in Norfolk, occupying all the country that lies to the south-east of such a line, including the counties of Somerset, Dorset, Wilts, Gloucester, Hampshire, Berkshire, Kent, Hertfordshire, and parts of Northampton, Norfolk, and Lincoln; and it is to the proprietors of land in those districts that we must look for any successful attempts to cultivate these Fungi.

A great proportion of the Truffles exposed for sale in Covent Garden comes from Wiltshire and Hampshire, and the opinions of those who make it their business to collect them coincide completely with those of Messrs. Tulasne cited above. I have been informed by one of these men, that whenever a plantation of Beech, or Beech and Fir, is made on the chalk districts of Salisbury Plain, after the lapse of a few years Truffles are produced; and that these plantations continue productive for a period of from ten to fifteen years, after which they cease to be so. It has been observed that the species most available for culinary purposes with us is *Tuber aestivum*, a species considered in France as of far less value than *T. melanosporum* and *T. brumale*; and it might be worth while to obtain well-matured specimens of these species from France, and distribute them while quite fresh in some locality producing our indigenous kinds, to ascertain if we could not thus obtain a superior race of Truffles. *Tuber aestivum* is commonly worth about 2s. 6d. per 1 lb. in Covent Garden, whilst in Italy *Tuber magnatum* fetches from fifteen to seventeen francs, and *T. melanosporum* almost as much. Should horticulturists be tempted to try their skill in the artificial production of these Fungi, they should bear in mind the conditions most suitable to their nature as above recorded. They might succeed, for instance, in producing them in Filbert-plantations or in gardens thickly set with fruit trees; and they should plant mature specimens in well-trenched ground on a calcareous substratum, and be careful not to stir the soil to any depth till the autumn or winter of the following year, in order not to disturb the mycelium; and it would be well perhaps, in case they find a successful result, not to take too largely of the crop the first year or two, but to give them time to establish themselves thoroughly in the locality. It would seem, however, that, when once established, deep stirrings of the soil would tend rather to encourage than to check their increase, as giving the

mycelium a lighter soil in which to vegetate, and preventing the growth of roots of surrounding trees, &c., which might deprive the Truffles of the requisite nutriment.

It might be as well to try the growth of *Tuber macrosporum*, as it is an indigenous species, and might become a source of profit, notwithstanding its garlic odour. Those who possess woods or plantations of Beech in calcareous soils, which are not already productive of Truffles, might succeed perhaps in rendering them so by trenching patches of ground beneath the trees, so as to clear away the brushwood, grass, and roots for a considerable space, and planting ripe Truffles in the trenched spaces, and then allowing time for them to produce their mycelium. And when the roots of surrounding trees again encroach on the selected spots, they might be checked by deep digging around their margins.—(*Journal of the Royal Horticultural Society.*)

DÉJEUNER AT MR. WM. PAUL'S NURSERIES AT WALTHAM CROSS.

On Tuesday last the Executive Committee of the International Horticultural Exhibition recently held at South Kensington, paid a complimentary and friendly visit of inspection to Mr. Wm. Paul's nursery grounds at Waltham Cross. The gentlemen arrived per train at 11.30—the down mail stopping specially at Waltham station for the occasion. They walked direct from the platform to the nurseries, by a private pathway adjoining the line, bordered with Roses; and were soon admiring the extensive and beautiful collection of flowers and shrubs, which are to be found in vast profusion there. The Roses first attracted attention, the entrance being lined with them, also the edge of the grounds nearest to the railway. These are not only cultivated, but bred by Mr. W. Paul. The Geraniums were next examined with much interest: of these favourite flowers Mr. W. Paul has a new race in Mr. Beaton's stock. While walking up the principal broadway of greensward, the varieties of hardy ornamental-foliaged trees with their purple, silver, and gold leaves commanded much admiration. These in gentlemen's gardens would pleasantly vary the monotony of uniform green foliage: of such Mr. W. Paul has a large collection, we were told the best in Europe. There are Oak leaves almost black, Maple leaves almost white, Spanish Chestnuts of golden hue, and almost every intervening shade of foliage. The fruit trees, especially some fine kinds of Pears, were also particularly noticed; and the visitors were busily engaged examining trees, shrubs, and flowers, until they were called in to partake of a sumptuous breakfast, set out in a conservatory in excellent style by Messrs. Ring & Brymer, of Cornhill.

Mr. Wm. Paul presided: there were also present, Sir C. Wentworth Dilke, Bart., M.P.; Professor Bentley (King's College); Sir D. Cooper, Bart., (late Speaker of the House of Assembly, Sydney); R. Fortune, Esq. (the Chinese and Japanese traveller); the Rev. Joshua Dix, M.A. (Rector of Allhallows, London); the Rev. K. N. Brandon (Incumbent of Waltham Cross); the Rev. J. Paxton Hood; Robert Hogg, LL.D.; Messrs. Thomas Moore, F.L.S., J. Smith, G. Gibson, Wm. Bull, C. Edmonds, R. B. Knight, W. F. Siddall, W. A. Sadler, H. Stormont, T. Rivers, J. Harding, G. Eyles, C. Lee, C. Turner, W. Wakefield, Osborn, Williams, and others.

After the repast, thanks were returned, and

Sir C. WENTWORTH DILKE said, they ought not to separate without drinking the health of their worthy host, Mr. Wm. Paul (hear, hear). They were all deeply indebted to him for his kindness in allowing them to come and have the opportunity of looking over his extensive establishment, and after the kindness with which they had been received he was sure they would all heartily drink to "The health and prosperity of their host and all connected with him" (cheers).

Mr. W. PAUL briefly said he appreciated the honour Sir Wentworth Dilke had done him, and he scarcely could find words to express his gratification to those gentlemen who had done him the honour of coming to Waltham Cross to see his establishment. He knew they set a great value on time, and, therefore, would not say more than to thank them for the kindness with which they had received Sir Wentworth Dilke's proposition.

Mr. W. Paul soon after rose again and said, he had the honour of proposing a toast which he was sure would be received with acclamation. The International Horticultural Exhibition has been a grand and complete success. If they looked for the causes which had contributed to that success, they would find them many and various, but those most vividly before him were the energy, judgment, and administrative skill displayed by the Chairman of the Executive Council (hear). There were already written on his escutcheon the symbolic figures of 1851 and 1862; and to these must now be added a symbol of less magnitude, but not of less beauty, the Horticultural symbol, 1886. He had never worked on a committee where such courtesy was shown by the Chairman to the suggestions of every individual member, and where there was such unanimity of purpose and such a spirit of fairness manifest. Members of the Committee had no difficulty in having their remarks listened to; and the most abstruse suggestions were carefully canvassed to see if there was anything in them. He proposed

they should drink the health of the Chairman of the Executive Committee (cheers).

Sir C. W. DILKE returned thanks, and said the terms in which the toast had been proposed, and the manner in which it had been received were together far greater than were warranted by the small services he had rendered. Had he been aware of what Mr. Paul was about to propose he would have suggested a removal into the gardens; but with reference to the recent Exhibition he had done his best, and he thought that was all any one could do. The Exhibition had been produced by the gardening interests of the country, and all the Committee had to do was to keep it moving, and in a straightforward direction. So many gentlemen had put their entire heart and soul in the Exhibition that it could not help going on—it only required a little guiding now and then. He felt pleased and proud at its success, and as a Horticultural Exhibition it had never been surpassed. He thought it possible that France might profit by what had been seen there, and might, perhaps, equal them in future years. He thanked them for the kind manner in which they had received the toast (cheers).

Mr. W. PAUL proposed "the health of the Treasurer of the Exhibition, Sir Daniel Cooper," and paid a high compliment to him for the financial skill he had displayed. Success in finance, he said, was only estimated by results. The original estimate of the Exhibition was £18,000, but they did not shrink from the risk; they went on, and now they had paid all their bills, and had £3000 still in hand (cheers).

Sir D. COOPER, in acknowledging the toast, remarked that the success of the Show had fully verified the anticipations of those who knew the interest felt in floral exhibitions. He had been accustomed to money affairs for many years: he had done the best he could for the Exhibition, and was amply rewarded for all his exertions by the kind thanks they had given him. He believed the success of the International Exhibition would do a great deal towards the promotion of horticulture in this country (cheers).

Mr. W. PAUL proposed "The health of the Secretaries of the Exhibition, Dr. Hogg, Mr. Moore, and Dr. Masters." Their tasks had not been light; but their aid had been readily, cheerfully, and most ably given.

Dr. HOGG said he had not intended to rise, but Mr. Moore kept making such signals to him, he was obliged to get up and return thanks. If he were to say the duties had been light, he should only mislead them; but no one could tell them better than Mr. Moore how onerous they were, for he had borne the brunt of them all. It was a great gratification to them to know the Exhibition had been successful; and he was sure that the services the Secretaries had rendered had been cheerfully given (cheers).

Mr. MOORE also briefly returned thanks.

Mr. PAUL proposed "The Healths of the Councils of the Royal Horticultural and Botanic Societies." A member of the Council of each Society was present, and they all knew the value of the efforts made by these Societies for the promotion of horticulture. With the toast he coupled the names of Professor Bentley and the Rev. Joshua Dix.

The Rev. JOSHUA DIX returned thanks, and said, as a member of the Council of the Royal Horticultural Society, he felt he was only doing his duty in trying to promote the success of the Exhibition all he possibly could. He hoped a better day was dawning upon the Horticultural Society, and that before long it would attain that proud position in which it ought to be; and if the representatives of the Society would only be kind, gentle, and unanimous in their requirements, he saw no reason why it should not be one of the finest horticultural societies in the world.

Professor BENTLEY returned thanks on behalf of the Royal Botanic Society.

Mr. PAUL proposed "The Provincial Press," and the health of a gentleman present connected with one of their papers—Mr. Pollard, of the *Heris Guardian*.

Mr. POLLARD returned thanks.

Sir D. COOPER said they had drunk the healths of the Chairman, of the Treasurer, Secretaries, and others; but there was one without drinking which they ought not to separate. It was those who had made the Exhibition successful—"The Visitors." It was clear that this Exhibition of flowers had reached the hearts of the people, and it was a fact that the Horticultural and Botanic Societies would not fail to remember. It showed that the people could appreciate the beautiful collections lately exhibited, and with the toast he begged to give the name of Mr. Wakefield.

Mr. WAKEFIELD, in reply, said the public were really the parties who had most gratification in the matter. The poor had paid their shillings, the rich their higher entrance fees, and all had been amply rewarded by viewing the beautiful and splendid collection gathered together (cheers).

Sir C. W. DILKE said the gentleman who spoke last was a very valuable person—he represented the £15,000. When the project first started some said they would all be ruined. But he knew something of the class of persons who would come, and was not in the least alarmed, though he did not expect it would turn out quite so successful as far as £ s. d. was concerned: and there again he had to thank Mr. Wakefield and the fifteen-thousand pounders (laughter). But they ought not to forget after all a class to whose efforts they might chiefly attribute the success—he meant the Exhibitors. He therefore proposed their healths, and coupled with the toast the name of Mr. Turner.

Mr. TURNER said he thought Mr. Lee ought to return thanks. Mr. Lee had done very much for the Exhibition, and deserved their thanks; for what he himself had done he had already been rewarded, in obtaining a considerable number of prizes. The exhibitors had worked hand and hand together, and there had been no jealousy, and that was the chief reason of their great success (cheers).

Dr. HOOGE said he was sorry to trespass on their time, but there was one other toast to propose. They had drunk the healths of the Committee, Treasurer, the £15,000 men, and others, but there was still one to name, whose efforts would bear comparison with those of any other; he meant Mr. Gibson, architect of the Exhibition (cheers). He had brought an amount of talent and genius to bear on the design for the Exhibition, such as he never knew brought to bear in any similar manner before (cheers). But it was not merely the labour, and skill, and genius which Mr. Gibson had given towards the work, the time and trouble he had bestowed on it were such as he could not express, and they could not imagine. He was there at all times and in all weathers; to him they were mainly indebted for its grand success, and he felt it equally an honour as a pleasure to propose his health (cheers).

Mr. GIBSON was loudly cheered on rising. He said they had done him too much honour, and he felt he was not deserving of it. It had been a labour of love to him, and if he had really contributed towards the success of the Exhibition, the knowledge of that fact was a sufficient reward (cheers). But he had valuable assistance in his son and Mr. Eyles, and it was a happy hit the adapting their plan to the requirements of the Show.

The Rev. J. DIX proposed "The health of Mrs. Paul" (loud cheering, amidst which Professor Bentley proposed to include Mr. Paul's juvenile family).

Mr. PAUL briefly returned thanks.

Mr. FORTUNE proposed "The health of the Building Committee and Mr. Lee" (of Hammermith).

Mr. LEE acknowledged the toast.

Sir C.W. DYLLER at some length eloquently expressed his sense of the obligations owing to Dr. Hooker for the very kind and valuable aid he had rendered.

Mr. SMITH, Curator of the Royal Botanic Gardens, Kew, returned thanks for Dr. Hooker, and said his humble efforts would always be at their service in case of a similar exhibition.

W. A. SADLER, Esq., proposed "The Ladies," who had brought the beauties of nature to vie with those of art at their recent exhibition (cheers).

After a few humorous speeches the party broke up. — (*Herts Guardian*.)

LIBERALITY IN GARDENING.

In this art "it is the liberal hand which maketh rich."

Liberality in providing implements is the saving both of time and labour. The more perfect his instruments, the more profitable are they.

Liberality to the earth, in seed, culture, and compost, is the source of its bounty. Thus it is in horticulture, as in every part of creation, a wise and paternal Providence has inseparably connected our duty and our happiness.

In raising domestic animals, the condition of man's success is kindness and benevolence to them.

In cultivating the earth, the condition of man's success is his industry upon it. — JOSHUA QUINCY.

WORK FOR THE WEEK.

KITCHEN GARDEN.

PRESERVE in hoeing and forking up the surface of the soil in every department, it is the groundwork of success. *Broccoli*, let there be no delay in planting out a good breadth of White and Purple Cape, also Cauliflowers and Grange's Early White Broccoli, which if true is invaluable late in autumn. Trench up and fill with these kinds of crops every space as the early crops go off, not one vacant spot or corner should now be left uncropped. *Cauliflowers*, break down the leaves over the most forward, and afford a good supply of liquid manure. *Cucumbers*, see that these and Vegetable Marrows do not want for liquid manure and water; peg down the vines as they advance, and attend to stopping. *Endive*, a full sowing may now be made for the main crop, and any beds already sown had better be thinned out, and the thinnings transplanted. For our own part we do not recommend early sowing, because we consider Lettuces much superior for every purpose for which *Endive* can be required at this season, and, therefore, never sow until all danger of its running to seed is over. The Small Green Curled is the hardiest for winter use, but for the autumn crop the Large Green Curled is a splendid sort, planted in very rich soil at 2 feet apart each way. This sort will not bear severe

frost, nor does it keep in store so well as the Small Green Curled, and, therefore, for all late purposes the latter should only be sown. The Large-leaved Batavian is also a useful variety. Where *Chicory* is in request for salads, now is the proper time to sow it. *Herbs*, take the first opportunity as soon as the various kinds are sufficiently advanced to cut a portion for drying; the best time is as soon as the blossoms are expanded, because they are then the most aromatic. It is hardly necessary to add that they must be cut when perfectly dry and dried quickly in the shade. *Lettuces*, tie up for blanching, and make successional sowings. Sow *Radishes* and other salad-ing for succession. *Scarlet Runners*, make the last sowing, and give those advancing a little assistance in training them up the stakes. Thin, earth up, and stop advancing crops of *Dwarf Kidney Beans*, and sow the latest successional crop. *Spinach*, keep up the sowings. *Tomatoes*, nail those that are planted against walls, and stop their shoots where they are growing strong.

FRUIT GARDEN.

The season being what is called a very growing one, increased diligence must be exercised in keeping all young wood properly nailed to the walls, to guard against the effect of high winds. Gooseberries and Currants trained against north walls should have the leaders nailed in, and all side offshoots spurred down to within a few joints of the base. Peaches, Nectarines, and, indeed, wall trees in general, will be greatly benefited by occasional strong syringings, whether infested with aphides or not, because independently of washing away all filth, which of itself is beneficial, it disturbs and routs out woodlice, earwigs, and other vermin, which are sure to congregate amongst the shreds, and at the back of the shoots, and which, if left undisturbed, will tell a tale by-and-by. Strawberries are now abundantly repaying those who have bestowed a reasonable amount of care in their cultivation, without which no good results can ever accrue. Let them be kept well gathered as they become ripe, as if left on they retard the swelling and ripening of those remaining. Continue the thinning of Grapes, and keep the growth judiciously stopped.

FLOWER GARDEN.

Cuttings of *Roses* (where they can be obtained), may now be taken, and planted in a close, cold frame in a northern aspect. In about a month they will have shown a disposition to strike root, when they may be taken up carefully, potted, and plunged in a slight bottom heat. Treated thus they make nice plants in a short time, and if kept under slight protection during winter, will fill their pots with roots, and be ready for planting out next May. Now that the bedding-out stock is fairly cleared off, and growing freely in its summer quarters, there will be more space and time to attend to the propagation of favourite hardy plants; and no time should be lost in putting in a good supply of cuttings of such as it may be thought desirable to increase, for the propagation of the bedding-out stock for next season will soon require attention. Sow Brompton and Queen Stocks for spring flowering, selecting for them a piece of light rich soil, and never letting the surface become dry until the plants are well above ground, for there is no time to be lost if these are to be had strong for blooming next May, and at that season we have nothing more beautiful or half so fragrant as well-grown plants of the latter. Attend to the tying up of Hollyhocks and Dahlias. Reduce occasionally some of the blossoms in the bud state, on some of the very free-flowering Perpetual *Roses*. It will cause them to keep longer in bloom. Let gross shoots on fancy *Roses* be pinched when a few eyes long, after the manner of fruit trees.

GREENHOUSE AND CONSERVATORY.

Contributions from the stove should still assist the ordinary stock in maintaining the gaiety of the conservatory. The removal of some of the larger specimens from the stove will afford much useful space for the young and delicate portion of the stock, which should now be shifted and otherwise encouraged. Where stove and greenhouse plants afford suitable cuttings, propagation may still be pursued, as, generally speaking, it can be practised with greater success in the early than in the latter part of the year. It should be remembered that the propagation of most plants is facilitated by the employment of bottom heat and bell-glasses. It will be necessary frequently to look over greenhouse plants plunged out of doors, to check the havoc of worms and the robbery of weeds, and attend to their security from the effects of high winds. The *Camellias* and *Asaleas* for early flowering will have set their buds, and should be removed to a sheltered shady situation out of doors; for if

kept in heat they will be apt to make a second growth, which must be avoided, as it prevents their flowering so freely as would otherwise be the case. Give every possible attention to plants for autumn and early-winter flowering—as *Lilium lancifolium*, *Chrysanthemums*, *Salvia splendens*, *Globe Amaranth*, tree *Cornations*, *Scarlet Geraniums*, *Cinerarias*, *Gesneras*, *Begonias*, *Euphorbias*, &c. Let these have plenty of pot-room, good rich compost, a moist atmosphere, and plenty of space for the perfect development of their foliage, regulating the temperature according to the nature of the plants, and they will make very rapid progress. *Selago distans* is an exceedingly useful winter-flowering plant, requiring merely a cold pit to grow it, and flowering through a long season; but we have nothing that surpasses the *Epacris*, the winter-blooming *Ericas*, and the *Cytisuses*. Among comparatively modern plants *Sericographis Ghiesbreghtiana* is really good for the decoration of the conservatory in winter, as also the blue *Conoclinium*, and the singular-looking *Thyracanthus rutilans* is first-rate for a rather warm house, but it is not generally found to answer for winter use in the conservatory. The atmosphere of plant-houses can hardly be kept too moist at this season, but it is easy to err in the opposite direction: therefore sprinkle every available surface frequently, and syringe growing stock lightly twice a-day during bright weather. Avoid a too free use of shading, and ventilate freely in order to secure compact growth. Herbaceous *Calceolarias* which have done blooming should have their flower-stems removed forthwith, and the plants should afterwards be placed in a shady situation under the protection of a frame. Take care that they are perfectly free from insects; and to keep the thrips, which is a deadly enemy, at bay, fumigate the frame about once a fortnight with tobacco.

STOVE.

Many of the basket Orchids will soon be protruding their roots through the moss or soil, and a little additional fibrous peat or moss should be added in due time. Stove stock in general will gain some more room by the removal of large specimens into the conservatory or greenhouse. Let young growing things be stopped in due time, and keep up a moist yet free atmosphere.

PLANT-PITS OR FRAMES.

These will require abundance of air and the most careful watering daily. Some of the delicate stock will at times require shading through the middle of the day, especially where unplunged.—W. KNANE.

DOINGS OF THE LAST WEEK.

VERY hot drying weather, preparatory, we expect, to another thunder-storm; but meantime, in the brightness of the sun very trying to newly planted things, and causing many plants pretty well established to hang their heads.

KITCHEN GARDEN.

Delayed putting out Celery, but got the beds ready; and as the large fine plants are as yet doing no harm to each other, they will suffer little from transplanting with large balls. Prepared ground for Winter Greens and Coleworts, but will wait for duller weather before planting, more especially as there is so much besides to do, and we would rather lessen the labour of watering as much as possible. In fact, we are not so forward as we would wish a good many of our readers to be, and have been obliged to do many things by snatches, which it would have been truer economy to have finished at once.

Here is one of the great differences between a gentleman's gardener and an artisan. The former must often do merely a portion of a job to serve its turn in the meantime, when the finishing it off and letting other things wait would be the most economical as respects labour; but then in the jarring of interests, and each interest calling out to be first served, the wholly-finishing process would often interfere with the question of supply and demand. This, too, is often forgotten when comparisons are instituted between gentlemen's gardens and market gardens. In the former a great supply of any one thing at once is often tantamount to so much waste, and induces at least a feeling of satiety. In the other case so long as there is a market it signifies nothing, unless it be more advantageous that a great supply should come in at once, and the ground be thus cleared for a future crop. The cultivating of so many acres, in acres of this and acres of that, and the cultivating the same number of acres in merely poles of this and quarter rods of that, to come in in regular succession to each

other, presupposes a very different affair as respects even the labour involved. In the first case, merely as abridging labour and clearing the ground, there can be no question as to the economy and profit when a suitable market is to be found. As little question can there be of the advantage of the gentleman's garden plan, where a constant supply, and not a glut at any one time, is required. Possessors of gardens are apt to say that they can purchase cheaper than they grow, and this is very likely, and on the simple principles alluded to above; but they should recollect that in the country they could not so purchase at all without considerable additional expense in the way of carriage, and the further from the market the greater would be the uncertainty of getting served with what they want, and the greater certainty of being served with stale produce instead of fresh. Every possessor of a garden ought, besides, clearly to understand that it is very different as respects labour alone to grow only one crop on an acre of ground, and in a space of the same extent to grow a score or a hundred. The freshness of the produce and the regular succession do and ought to constitute the most valuable returns from a gentleman's garden.

A correspondent tells us that some gentlemen far north, when they go to London, visit Covent Garden two or three times a-week, and send an account of all they see to their gardener, with his couple of men, and wonder why they cannot have such things, and as early. The articles referred to they give no means for forcing, and yet those they had seen had either been forced, or at a later period brought by steamer from the north of Africa, the south of France, the Channel Islands, or the south of Devonshire and Cornwall. It would be a good thing if such observers would do more than observe, that they would purchase at an early period, and the lesson might not be quite forgotten. We recollect a case in point. What seemed a basket of very early Cherries, was taken hold of, and was to be made much of in the way of jogging up the county folks, where the trees were scarcely out of bloom, and as there were ladies in the case, the price for once was not allowed to be a matter of moment. We were told in confidence afterwards, that instead of a little basketful there was only one layer, and that each Cherry cost nearly a shilling. The same person was "done for" with a basket of nice Strawberries, which he presented to a lady, but there was something like an appreciation of his gardener which he had never felt before, when the bill for the nice basket was handed in, and he paid 4s. 6d. per ounce for them. It ought to be clearly understood, that no single garden can ever equal Covent Garden, where are collected the produce of thousands of gardens, and from great varieties of climate at home and abroad; but a knowledge of Covent Garden prices, and especially for early productions, would often do much good, and make the country garden more valued, merely in an economical point of view.

Had enough of ground trenched and dug to sow some more Peas, Dwarf Kidney Beans, and Turnip Radishes, and used the tops of Celery trenches for planting out Peas from semi-circular drain tiles, after they were sufficiently high for the pheasants not to meddle with them. These, when well watered and staked, had the ridge covered over with old stubble and short grass, to keep the heat and dryness out, for the ground is now quite hot enough for Peas. The last sowings will consist of such kinds as *Dickson's Favourite*, *Macleod's Advancer*, to be followed by a few of *Sangster's*, and probably *Tom Thumb*, under protection. Cauliflower stands the hot days rather badly, though all crisp and erect enough in the morning; and to save watering placed some litter, long dung, and grass, all over the quarter, to keep the fierce sun off the ground. If we have a thunder shower by or before Sunday, the virtues of the mulching will increase the vigour of the plants. This mulching alone enables the plants to stand well, even in the bright sun. When the leaves hang wetted for two or three days, the flower or head of young plants is apt to button prematurely, and either a small or a scattered head, instead of a large close one, is the consequence. If the bright weather continue we shall be obliged to shade Lettuces even on sloping north banks. This is a substitute for watering, and takes much less time.

Took the chance to have a general hoeing of weeds, the late warm rains having caused them to grow with great rapidity. Thinned before the ground became hard most of the spring-sown Onions, and pricked out some as previously detailed. We could not find time and opportunity to transplant in spring the Onions sown in autumn, and they are not so good in consequence. We have uniformly found that such Onions as were transplanted early in spring made better, larger, and firmer

bulbs than those left in the ground without moving them, partly owing, we believe, to the necks of the bulbs getting too deep. See last week as to transplanting.

FRUIT GARDEN.

In addition to thinning fruit, watering, syringing, &c., the chief work here has been gathering green Gooseberries for jam which some prefer to that from ripe fruit, and protecting by every means in our power Cherries and Strawberries from birds. Will any one tell us of a sure, and simple, and expeditious mode for thinning by poison myriads of sparrows? We have a great dislike to have anything to do with tasteless inodorous poisons—as arsenic, &c. We tried a little nuxvomica boiled, and steeped a little Wheat in it, but according to our preparation the sparrows only enjoyed the feed. Of course, we would have placed it where no domestic animal, pheasants, &c., would be likely to get at it. We threw a handful of our stuff near some Pear, and there a score of sparrows were at it in two minutes. We should not like to use anything that would not be quick in its results. There is something horrible in the idea of keeping any living thing in torture. It is next to impossible to fix net in such a manner that they cannot get through it or under it. Pieces of white paper suspended from strings will keep them away for a little, but all these contrivances only act until the birds become used to them. We once had a very alarming guy that put himself into all sorts of fierce positions, but though he awed for a short time as a deterrent to evil doers, are many days elapsed the sparrows in their impudence used his head as a flirting rendezvous.

After such warm days gave the orchard-houses an extra syringing of the cleanest water we could. We can scarcely obtain any water that does not leave a sediment on the foliage when very freely used. Threw a little whitening water over the glass of the Peach-house, and over pits and frames, to prevent the sun setting too powerfully. Thinned out shoots in Fig-pit, and shortened those showing the second crop. The early Figs have just the weather they like, if the fruit is protected by a thin layer of leaves from the fierceness of the sun. Proceeded with thinning Grapes in dull mornings, and here, too, left a good shade of leaves between the glass and the bunch. A dense shade would be prejudicial, but under a moderate shade the berries swell and colour better than when almost exposed to the sun's rays. The finest shining blue-black we ever saw on a Hamburgh, was a bunch against a wall, and to see it you had to move aside the foliage in front of it. On the open walls, and even in some of the quarters, owing, we presume, to the sudden heat, honeydew is appearing on fruit trees and bushes, and is almost sure to be followed by insects if let alone. Nothing is more effectual than a good slushing from the engine with clear water, or water clear after having a little quicklime dissolved in it. The successions of heats and colds have been sudden. Within a space of a few hours we have had hoar frost and then a roasting heat, and these sudden changes are hurtful to vegetable as well as animal life. In a moderate degree, a considerable difference in temperature gives a robustness to vegetable life. For instance: night being the period of repose, provided the temperature changes either way gradually, and there is no close moist air to do the mischief, many plants that require a high temperature to bring them to perfection, will do much better in a temperature from sunshine during the day of from 85° to 90°, and allowed to drop to from 55° to 60° at night, than if kept up artificially to the exciting temperature of 70° in darkness.

Here we find we had forgotten to put two little matters in their proper place. First, as respects the giant and the different kinds of small *Rhubarb*. As we sent in large *Rhubarb* for preserving, and the weather, too, being hot, we thought we might as well have a stewing of *Rhubarb*, as with its general accompaniments it is more palatable than the druggist's *rhubarb* take it how you will. Well, somehow the huge *Rhubarb*, grand to look at, did not quite remind us of the flavour of the *Rhubarb* of old times, so another day we had a dish of the small *Rhubarb*, the stalks about the size of our thumb, and there seemed no comparison, the smaller being so much richer in flavour, in colour, and so much firmer in texture. Long ago we used to grow Buck's Early Scarlet, or early something. Why, a pudding or a tart of that little old sort looked almost as tempting as a dish of finely coloured Nectarines stewed as a tart. This seemed to be one of the instances in which great increase in bulk is anything but all gain, and is a sort of corroboration of the old proverb, which our six-foot men will be slow to believe, that what is very valuable is generally held in little room.

The other matter referred to a letter from a correspondent, stating that his *Mushroom-bed*, bearing well, was sadly troubled with slugs, snails, and little worms; that he had resolved to steep them, and had watered heavily with lime water, but that what *Mushrooms* he had in crop were becoming like so many pieces of leather, and no more seemed to be coming, and he wants to know what to do. Well, we fear he must make a new bed as soon as he can. As a chance he might sweep the bed clean of all the *Mushrooms* up, and if the bed be not very wet water with clear water, to get the quicklime away from the spawn. If that has not been much hurt with the lime water, the *Mushrooms* will yet rise and come all right; but if the watering was heavy enough to soak whilst at all acrid the spawn, the bed will do no more good. We do not think that calcareous soil, or mild lime or chalk in the soil, would have the least prejudicial effect, but quicklime is the bane of the *Mushroom*, and all the fungus tribes to which we ever applied it. We have seen fairy rings that spread outwards and outwards for years, longer than the recollections of the oldest inhabitants, arrested in their course of taking fresh leases, by a plentiful dressing of quicklime. It quickly arrests the spreading of some troublesome *conferve* in pits and pots, and may be relied on as an antagonist, and not the friend of the whole fungus family.

We have made a shallow bed for *Mushrooms* in a shed, which is now nearly fit for spawning. Just as last year, part of a bed that bore all last summer, and had been neglected in winter, has been bearing again for two months, and is even now covered, whilst the beds in the house made of better stuff in winter are quite exhausted. We believe that in most cases where failures occur, it is from mistaken kindness, or from too great anxiety in preparing the materials. The most of this bed in the shed was made of litter and stubble, with a casing of several inches of droppings on the surface. The richer the materials at this season, say nearly all droppings, the longer must you wait before it will be fit for spawning. Now is a good time to make spawn, the bricks or cakes will dry so soon.

ORNAMENTAL DEPARTMENT.

See previous weeks as to syringing and watering. We have merely syringed the last-planted beds as yet, and do not wish to water if we can help it, as there is plenty of routine to go through without that. It is well to have a reserve-bed of *Asters*, &c., which lift with nice balls. Even *Chrysanthemums* may yet be planted out. Now is a good time to bud *Roses*. *Hollyhocks* must be secured from the wind. Cuttings of *Pinks* may now be inserted under a hand-light, and of many other spring-flowering plants as previously alluded to. Many bedding plants not used may now be potted and kept in reserve and for autumn blooming in-doors as wanted. *Cinerarias* planted out need plenty of water, to enable them to throw up strong suckers for potting; seedlings need potting off and pricking off, and so do lots of *Primulas*, of which one can hardly have enough in winter, as if kept in small pots they do so admirably for filling inside little vases, never suffering from the moving. Cleaned *Azaleas*, potted *Balsams*, packed basket *Orchids*, &c., and kept all plant-houses with stages and floors sprinkled with water frequently to moderate the heat and dryness.—R. F.

COVENT GARDEN MARKET.—JUNE 30.

CHERRIES are now coming in from open standards, from all the chief fruit-growing districts, and we have an excellent supply of Strawberries and Gooseberries. Hothouse fruit is also abundant, and prices are receding. The Potato trade is good for all first-class sorts. Arrivals from the Continent are heavy: comprising Cherries, Apricots, Melons, and two or three varieties of common Plums.

VEGETABLES.

		s.	d.	s.	d.			s.	d.	s.	d.
Artichokes	each	0	2	to 0	4	Leeks	bunch	0	8	to 0	6
Asparagus	bundle	3	0	6	0	Lettuce	per score	1	0	1	6
Beans, Broad	bushel	0	0	0	0	Mushrooms	pot	8	0	4	0
Kidney	100	1	0	2	0	Mustard & Cress, punnet	0	2	0	0	0
Beet, Red	doz.	2	0	2	0	Onions	bushel	7	0	10	0
Broccoli	bundle	1	0	1	6	Parsley	½ sieve	2	0	0	0
Brus. Sprouts ½ sieve	0	0	0	0	0	Paranips	doz.	0	9	1	0
Cabbage	doz.	1	0	2	0	Pears	per quart	0	9	1	3
Capsicums	100	0	0	0	0	Potatoes	bushel	2	6	7	0
Carrots	bunch	0	4	0	8	Kidney	do.	3	0	10	0
Cauliflower	doz.	2	0	6	0	Radishes	doz. hands	0	6	1	0
Celery	bundle	2	0	2	0	Rhubarb	bundle	0	4	0	0
Cucumbers	each	0	4	1	0	Savoys	doz.	0	0	0	0
pickling	doz.	0	0	0	0	Sea-kale	basket	0	0	0	0
Endive	doz.	2	0	0	0	Shallots	lb.	0	8	0	0
Fennel	bunch	0	8	0	0	Spinach	bushel	2	0	3	0
Garlic	lb.	1	0	0	0	Tomatoes	per doz.	2	0	4	0
Herbs	bunch	0	8	0	0	Turnips	bunch	0	6	0	0
Horseradish	bundle	2	6	4	0	Vegetable Marrows	do.	0	9	1	0

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples 1/4 sieve	0	0	0	0	Melons..... each	4	0	0	0
Apricots doz.	4	0	0	0	Nectarines..... doz.	10	0	0	0
Cherries lb.	0	0	1	6	Oranges..... 100	6	0	12	0
Chesham's bush.	0	0	0	0	Peaches..... doz.	10	0	0	0
Currants sieve	5	0	0	0	Pears (dessert)..... doz.	0	0	0	0
..... do.	0	0	0	0	..... kitchen..... doz.	0	0	0	0
Figs doz.	8	0	15	0	Pine Apples..... lb.	5	0	8	0
Filberts..... lb.	0	0	0	0	Plums 1/4 sieve	0	0	0	0
..... 100 lbs.	0	0	0	0	Quinces 1/4 sieve	0	0	0	0
Gooseberries quart	0	4	0	0	Raspberries..... lb.	0	0	0	0
Grapes, Hothouse..... lb.	3	0	0	0	Strawberries..... lb.	0	0	0	0
Lemons 100	6	0	10	0	Walnuts..... bush.	14	0	20	0

TO CORRESPONDENTS.

* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

CINERARIA SEEDLING (Bertha).—The flowers were dried up as if they had been put into an oven. Flowers should be sent in a box which cannot be destroyed by the post-office punch, and between layers of damp moss.

PEAS MILDEWED (Gregory).—The Peas are mildewed. Mulch over the roots, and water plentifully every evening whilst dry hot weather lasts.

WORK ON GARDENING (H. W.).—"The Garden Manual" will suit you. You can have it free by post from our office if you enclose twenty postage stamps with your address.

VARIETY OF BEECH (Lady King).—It is the crested variety of the common Beech, and is called by botanists *Fagus sylvatica cristata*.

LADY DOWNE'S GRAPE (Iago).—The berries are very severely spotted, "the Spot" being the name by which gardeners distinguish the disease. It is an ulceration caused, we believe, by the roots not being able to supply sap sufficient to sustain the rapid development of the plant and its fruit. Keeping the roots warmer and moister by means of weak manure waterings, and the head of the plant cooler and drier, are the remedies suggested. The *Muphorbia* was smashed.

AMARYLLISES (J. S.).—The *Amaryllis belladonna* will only grow in autumn and winter, and there should be no attempt to make it grow now. *Formicolasia* has a good deal of the same habit, but may be forced into growth when rested. The other kinds, we presume, belong to *Hippocrepis*, and are more under control than *A. belladonna*. All that have gone to rest leave alone, keeping the soil neither moist nor dry until they begin to grow, then water and encourage. Those growing now encourage with all the light possible and plenty of water, and refrain from watering as the leaves get a little yellow. When they start after resting they will show bloom. The greenhouse one to which you allude we presume is the *Valloia purpurea*; that should never be quite dry.

MUSHROOMS IN ORCHARD-HOUSE SOIL (Orchard).—A few *Mushrooms* would do no harm, but in such quantities as you mention they will injure the roots of the fruit trees. You introduced the spawn in the manure from the brewery. The best plan is to strew the ground over with quicklime and water, or you may use lime water by putting a bushel of quicklime to a hoghead of water.

STEFANOTIS FLORIBUNDA PRUNING (C. M. Major).—The long twining shoots ought not to be stopped but trained at their full length, and not too closely together, so that the wood may have the full benefit of light. All pruning should be confined to cutting out the old weak shoots. The main point to be attended to is to secure a good growth and thorough exposure afterwards to light and air, with a diminished supply of water at the root, and corresponding dryness of the atmosphere.

ORANGE TREES UNFRUITFUL (Idem).—Your plan of stopping the Orange trees is wrong, as they flower from the uppermost eyes of the shoots. If you cease to stop them (for which there is no necessity unless the head is thin), keep the heads thin so that light and air may be admitted to every part, and grow the trees in a light airy house. We think that yours, like ours, will produce a profusion of blossom and too many fruit by one-half. Whilst growing keep the trees well watered and syringed, and in winter do not overwater, keeping them just sufficiently moist to preserve the foliage.

MIGNONETTE CULTURE (A. S. W.).—We shall shortly give particulars of its culture, both in pots and in the open ground.

RED SPIDER (M. D.).—We regret having overlooked your communication. We are making inquiries, and will publish an article on the subject shortly.

SHADING CALADIUMS AND FINE-FOLIAGED PLANTS (Dumbartonshire).—Caladiums and all plants, whether requiring shade or not, are best grown near the glass, but not nearer than from 9 inches to 1 foot. On very bright days they require partial shade from 9 A.M. to 4 P.M., as their beauty is thus much prolonged; but the more light a plant has the more bright will be the colour of the foliage of whatever shade that may be, and to some plants it is absolutely necessary to bring out the colour of the leaves, as, for instance, in the case of *Crotons*, *Dracenas*, *Pandanus*, *Yuccas*, &c. Exposure to the full sun is injurious in the case of other plants, for instance, variegated-leaved *Begonias*, *Ferns*, &c. Not knowing what plants you possess we can only generalise; but if you send us particulars we shall be happy to help you further.

CLIMBER FOR GREENHOUSE (E. H.).—It is difficult to say which is the best climber for a greenhouse. We give you the option of deciding, and name three: *Lapageria rosea*, *Mandevilla suaveolens*, and *Habrothamnus elegans*.

PLUM TREE LEAVES BLIGHTED (W. J.).—The blight on the sprigs of the Plum tree is caused by a species of aphid, which you will find in the curled portion of the leaves. Your best remedy will be to shorten the shoots to four leaves, and syringe the trees in the evening with water in which soft soap has been dissolved at the rate of 3 ozs. to the gallon. This, applied on alternate evenings with pure water, will soon clear the trees. Treat the Apple and Cherry trees in the same way.

BRUGMANIA SUAVIFOLIA LEAVES FALLING (H.).—The old leaf sent is exhausted by red spider, and the young leaf is also attacked. Forcibly syringe the foliage on the under side with water twice a day, morning and evening, and every other evening employ water in which soft soap has been dissolved at the rate of 1 oz. to the gallon, not stronger. Keep the plant well watered at the root. Use the soap solution twice or thrice, or until the spider disappears, then discontinue it, but still syringe morning and evening with water only.

SELECT PERENNIALS (H. B.).—*Agrostemma coronaria*, rose crimson, 2 feet; *Lychnis Haageana* superba, orange, 2 to 2 1/2 feet; *Tritoma uvaria* glaucosca, orange scarlet and yellow, 3 feet; *Spiraea filipendula plena*, white, and sweet, 3 feet; *Tritonia aurea*, orange yellow, 2 1/2 feet; *Lythrum roseum superbum*, rose, 3 feet; *Phlox herbacea* in variety; *Lilium Brownii*, white, 2 1/2 to 3 feet; *Gum coccineum grandiflorum*, 2 1/2 feet, crimson; and *Delphinium belladonna*, sky blue, 3 feet. If your soil is cold, then in place of *Tritonia aurea* have *Oenothera Lamarckiana*. All are summer and autumn blooming.

MAKING WATER SOFT (Idem).—We have found no plan better for softening hard water than exposing it for a few days to the atmosphere. The water not only becomes less hard, but is aired and warmed, and is in every way better for watering plants than water from a well or spring.

AVOIDING DRIP (Anti-drip).—We find this best prevented by double glazing, which, though rather more expensive at first, effects a great saving of fuel, so that it is a cheaper plan in the long run than ordinary glazing.

VINE MILDEWED (Subscriber).—The leaf sent was severely infested with *Oidium*, or *Vine mildew*, in its worst form. Dust the mildewed leaves with flowers of sulphur, and in a few days syringe the sulphur off. If the mildew reappear, thoroughly dust the parts affected immediately with flowers of sulphur.

SELECT GERANIUMS FOR BEDDING (E. H.).—Christine, pink; Helen Lindsay, rosy pink; Stella, dark scarlet; Spitzke, scarlet; Tom Thumb, scarlet; Cybister, scarlet crimson; Lord Palmerston, deep crimson; Attraction, bright scarlet; Paul L'Abbe, salmon; Madame Vaucher, white; Woodwardiana, carmine; and Scarlet Globe. Of variegated Geraniums, Golden Chain and Gold Leaf of the gold-edged; Bijou, Alma, and Shotesham Pet of the silver-edged sorts, Mangles being one of the oldest and most useful of that section; and Argus and Mrs. Pollock of the tricolor sorts. All are good bedders, but they are surpassed by others for pot culture, of which we give names of a few: Blackheath Beauty, salmon; Rebecca, cherry; Mrs. Wm. Paul, rosy pink; Lord Chancellor, salmon; pink; Tinkertill, rosy suffused with pink; Eclipse, scarlet; Herald of Spring, orange, tinted cerise; and to these you may add the preceding, except the first, they being attractive in pots. Variegated for pots; all those named, and Burning Bush, Sunset, Galford Beauty, Italia Unita, Mrs. Benyon, Red Rover, Honeycomb, and Fontainebleau. If too many are named, select what is required according to the colour, one or more of each.

SELECT VERBENAS (Idem).—Purple King, purple; Aristote Improved, mulberry; Firefly, scarlet; Magnifique, crimson; Géant des Batailles, deep crimson; Melindres splendens, dazzling scarlet; Mrs. Holford, white; Crimson King, crimson; Beauty of England, white; Isa Eckford, puce; Celestial, blue; and Garibaldi, purplish rose, white centre.

BEST WHITE EDGING PLANT (Idem).—*Cerastium tomentosum* is usually preferred as a white edging plant, for it is so easy of management, may be cut into any form, and is so dwarf, compact, and neat.

OLD EXPOSED GUANO (H. B.).—The guano which has been in an open box for two years would still do some good; but it never was pure guano, but mixed with a large quantity of sand.

WHITE BEDDING PLANTS (Idem).—There are no really good white-flowered bedding plants except *Verbenas*, and of these *Beauty of England*, *Mrs. Holford*, and *White Lady* are the best. To make up for this deficiency in white-flowering plants, we have for edgings *Cerastium tomentosum* and *Biebersteinii*; for rings of white in beds, or lines in borders, *Centaurea candidissima* and *C. ragusina*, also *Cineraria maritima* and *Gnaphalium lanatum*; *Salvia argentea* for a back line or centre to a bed; and *Stachys lanata* for a silvery carpet under trees, or where few things would grow.

NEWLY-PLANTED VINE (Delta).—We are inclined to think that your Royal Vineyard Vine is not doing well in consequence of the early planting, and allowing four bunches upon it when, as we presume, it is a weak Vine. Then your allowing it to produce two canes weakens it still further, and yet we think it is doing fairly, and would have done well had you cut it in closely to two eyes, and not allowed it to carry any fruit this season. As a late Grape the Royal Vineyard, like many others, is rather impatient of early forcing, and then, though not a bad setter, the berries do not stone, and only attain about half their usual size. We have had no complaints of this, nor of its being a weak grower.

PEACH LEAVES PERFORATED (Idem).—The Peach leaves sent are eaten by some grub, which you may find on looking under the foliage towards dusk. A good syringing on one evening with a solution of 2 ozs. of soft soap to a gallon of water, and with clear water on the next, will do much to keep the tree free of the grubs and other insect pests. Three syringings of soap solution will be sufficient, but the syringings of water cannot be too frequent so long as the days are hot.

SEEDLING GERANIUM (C. D'acth).—The petals were all shed, but judging from their colour and the horsehoe leaf, we do not think it differs from many others.

TUMOURS ON LEAVES (H. P.).—The swellings on the leaves forwarded do not appear to have been caused by the punctures of a gall fly, but are morbid growths arising from some derangement in the functions of the leaves. We do not remember any query about a bee hive.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending June 30th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. sp.	2 ft. sp.			
Sun... 24	30.150	30.127	76	42	60	59½	E.	.00	Very fine throughout; cool at night.
Mon... 25	30.110	29.962	76	50	66	59½	N.E.	.00	Slight haze; overcast; very fine.
Tues. 26	30.017	29.947	69	52	65	59½	E.	.00	Very fine; hot sun; masses of towering clouds; warm at night.
Wed. 27	29.907	29.889	66	55	65	60	N.E.	.02	Cloudless and very fine; thunder and lightning; some hail and
Thurs. 28	29.964	29.918	87	54	65	61	N.W.	.00	Very hot and dry; exceedingly fine; warm at night. [little rain.
Fri. ... 29	29.964	29.811	80	50	67	61	N.E.	.00	Overcast; very fine throughout.
Sat. ... 30	29.939	29.879	66	52	67	62	S.	.64	Dry slight haze, hot; thunder storm commenced 1 P.M., continued [till night, with much purple lightning and heavy rain.
Mean	30.000	29.901	81.71	50.71	64.71	60.86	..	0.68	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

WHAT FOWLS SHALL I KEEP?

No one will be intelligent who does not ask questions. My brother presided on Thursday last at a large horn sheep sale—2465 sheep, late the property of James Davis, Esq., our old friend. I went to say "grace," and to support my brother. I met there a well-known poultry judge, George Andrews, Esq., of Dorchester. Determined to gain all the information I could, I asked him which were the best poultry to keep. He replied, "Bantams will give the most food, eggs, and flesh, for the least cost; but the best to have are a cross between the Game cock and Malay, keeping both kinds pure." I told him that in all competitions there were tricks. He said, "Poultry tricks were worse than horse-racing." I received his permission to give his opinion. I gave my friend, Archdeacon Huxtable, Mr. Beldon's second-prize Silver Dorkings, at York. I lately saw them, they are magnificent. I am much inclined to Dorkings.—W. F. RADCLIFFE, *Okeford Fitzpaine*.

[We shall be obliged by others giving their opinions, or rather the results of their experience. If a supply of both eggs at the time they are dearest, and good table fowls are required, we are in favour of dark Cochins, China pullets, and a Dorking cock.—Eds.]

FAILURES IN HATCHING.

JANUARY 19th, set nine eggs in hothouse: found, in twenty-four days, one egg added, others eaten. February 1st, set thirteen eggs in hothouse: hen left them in a week. February 26th, set twelve eggs in hothouse: in three weeks all bad. March 21st, set thirteen eggs in hothouse: in three weeks all bad. May 12th, set fourteen eggs in hothouse: in three weeks one egg only left. May 14th, set fourteen eggs in hothouse: in three weeks two chicks dead and four eggs eaten, others added. Lost seventy-five eggs!

The hens sat regularly, and only came off the nests once a-day for food and drink; but you will perceive that three hens ate part of the eggs. Am I to kill every hen guilty of eating eggs? My cocks are two to three years old, and the hens are about the same age. I had a Crève Coeur (pullet, said to be), from a first-rate establishment well known to you; she never laid an egg, and cost, when ready for cooking, 10s. a-pound. What do you think will be the balance of my poultry account on the 30th of June? I do not overfeed, and look after them myself! Have you a column for amateur poultry breeders who become bankrupt?—A TWO-YEARS AMATEUR, BUT NOT DAUNTED.

[You have mismanagement somewhere, and if you appear in our list of poultry bankrupts we shall be obliged, we fear, to suspend your certificate when we have made sufficient inquiry into your case. We cannot understand the prevalence of bad eggs. We do not believe they are naturally so, because some had chickens in them, and we believe they all had. You have bad sitters and egg-eaters, and they will spoil all eggs entrusted to them. An unimpregnated egg will not change under a hen, because, having no germ, it has no life. An added egg has had the principle of life more or less developed, and it has then been allowed to die; this renders decay possible, and it takes place. Hens are in a highly diseased or unnatural state when they eat the eggs on which they are sitting. We should not be surprised if the atmosphere of a hothouse was the cause of

it. Pheasants and Partridges, or hens that steal a nest in a hedge or dry ditch, never do it. Take them out of the hothouse, let them run naturally, and sit on the ground, feed well, but moderately, and we believe you will find a different balance next year, or this year with late chickens.]

GLITCHERON AGRICULTURAL SOCIETY.—We are glad to find that the Committee of this Association have set an example worthy of imitation in allotting the prize money usually given to horned cattle, which are this year excluded, to the poultry. On reference to our advertising columns it will be seen that the prizes are very liberal, and we trust that the increased patronage of poultry amateurs will justify the Association in repeating the experiment annually. Adequate protection from sun and rain will be provided.

MY APIARY.—No. 2.

HOW I WORK IT.

HAVING fixed upon the Swiss chalet as the most appropriate form of villa residence for my bees, it seemed only natural that the floors of the galleries running round it, externally, should serve as their settle-boards. This was accordingly done, and the inside ledges on which the hives rest, were made to correspond exactly with these, the lower ledge being 1 foot 7 inches from the floor, the upper one, 3 feet 7 inches, for instead of shelves, I have a fixed ledge $1\frac{1}{2}$ inch thick, supporting the front of the bottom boards of my boxes, and a bar supported by an upright in the centre for the backs to rest upon, which arrangement I find more convenient. The inside of my house is 7 feet square, which allows sufficient room for six hives in front (three in a tier), and four on each side, fourteen in all, the door being at the back or north side. There are two windows in the front, or south side, above the top tier of hives; but I find this arrangement inconvenient, and I should recommend only one window for a bee-house, and that, if possible, at the back, where there are no hives, the whole of it being made to open easily, and, at the same time to admit of being easily darkened by a closely-fitting shutter. The sides of my house are 7 feet high to the plate, the roof having a pitch of 2 feet 8 inches from this to the centre, and overlapping 2 feet all round. The material used in the construction is three-inch deal, boarded inside and out with thin planks tongued and beaded. The tunnels, therefore, through which the bees have to enter from the galleries to the inside ledges, are nearly 4 inches long, and the floor-board of each hive has to be fitted closely and exactly to the mouth of this. The whole building is set upon three courses of brickwork. There is, as the engraving shows (see page 465), a wide shelf running along the outside front of the house, upon which I have sometimes placed hives or boxes, but never, as yet, with bees in them, having found fourteen stocks, as many as I could keep with safety in this locality.

I am not aware that there is anything peculiar in my system of management, as I have adopted L. L. Langstroth's plan of frame hives, and work them very much according to the directions given in his book, either making all my swarms artificially, when I wish to increase the number of my stocks, or adopting the plan which he recommends, of making three out of two by driving and removing, and which he pronounces to be the best plan of all for increasing stocks, and keeping them strong. But it may be well, perhaps, to mention one peculiar feature in my arrangements this year, as likely to interest our

apiarian friends, and that is, that I am trying the plan recommended by one of the correspondents of *The Journal* in December of last year, and make half my stocks enter at the top instead of the bottom of the hive, and during the summer season I find them work quite as well as before; but I fancy that the bottom boards require more frequent cleaning in the spring, and I have not as yet hit upon a plan of doing this with facility, as I am obliged to screw the front of the top of my hive on the ledge, and it is, therefore, not so easy to remove it as before. My reason for trying this plan was, that I found my two tiers of hives inconveniently close for supering, but by putting my lower tier under instead of above the inside ledge, I have secured abundance of room between the two.

In my next I may say something of Friendly Unions, of which there have been more than one instance in my apiary, and of Hunger Swarms.—SIBERT-ON-THE-WOLD.

NADIRING.

I HAVE closely followed the directions given in your Number for July 11th, 1865, respecting the management of Stewarton hives. The bees were wintered in two boxes. On May 18th they had taken possession of a super, and on May 26th had nearly filled it. I, therefore, added a third breeding-box as a nadir. This box they appear to me to have filled; but it has been, I fear, at the cost of the super, as that remains in very much the same condition as on the 26th of May. Is there any objection under these circumstances to my appropriating the stores of the nadir, or at all events, making a portion of them as does not contain brood comb? I should be much obliged also by being informed whether the inactivity in the super is the result of any mistake in the management.

I may add, that having read that the addition of a nadir tended to quicken the work in a super, I added one to a small straw hive, and the result has been the same as with the Stewarton—viz., that no further progress has been made in the super.—H.

[We doubt whether you will find much honey in the nadir, but see no objection to your appropriating what may be there, if you wish to do so. It does not follow that the bees ceased working in the super because you had added a nadir. We should be more disposed to attribute the suspension of their labours to the recent break in the honey harvest, and shall not be surprised if you find the present glorious weather set them as hard at work again as ever.]

REGICIDE.

On going into my apiary on the morning of the 20th ult., I found two or three bees coming out of the cap of a royal cell. I thought it was from the size of it. I again went into my garden, and found (about 12 o'clock) the enclosed queen on the alighting-board dead, with about twenty or thirty bees around her. I must tell you that for two or three nights before this, I heard piping going on. The hive in question is one of Carr's bar-and-fringe hives, and I am working a super upon it. It has not swarmed, nor do I think it will, for they have half filled it with comb, and should have had a considerable quantity of honey had not the weather been so cold and wet here (Denton) during the previous ten days. I wish to know if you think her an old queen, and what will be the consequences.—W. W. O.

[When the queen reached us we found her crushed perfectly flat by the manipulations of the post-office officials, so that we can do no more than hazard a guess as to her history. So far as we can judge from the colour and appearance of her remains, we are inclined to believe her to be the old queen which has been slaughtered by a juvenile rival. Although this occurrence is somewhat unusual, it is by no means without precedent, and we should think it likely to be followed by the issue of a swarm.]

FORMING STOCKS IN AUTUMN FROM CONDEMNED BEES.

I wish to increase my stock of bees, and beg to know your opinion of the following method of doing so.

I would buy from a cottager the bees which he would otherwise kill, and would myself superintend their being driven

from the full hive into an empty one. When I had brought them home I would supply them with as much sugar and water as they would take. Is it possible for bees so late in the season, say August or September, to construct combs in which to store up an artificial supply for the winter?

I suppose it would be desirable to unite two stocks. A cottager should let me have these (useless to him), for 2s. 6d., and the bees might take 10 lbs. of sugar, value 5s. If successful, would not this be the best, or rather the cheapest, method of obtaining stocks? I fear there is some difficulty in uniting swarms.—ONE OF YOUR CONSTANT READERS.

[We never find it necessary to pay for condemned bees, the cottagers in our neighbourhood being only too glad to be spared the trouble of applying brimstone. Even with this advantage we estimate the cost of establishing a stock in the autumn from condemned bees as being about equal to that of a good swarm in spring. The inhabitants of at least two hives (three are better), should be driven into one domicile, and will require, say two dozen pounds of lump sugar converted into syrup by the addition of water in the proportion of two parts of the latter to three of the former by weight, and boiled a minute or two, to enable them to form and store a sufficient quantity of new comb to stand the winter.

There is rarely any difficulty in uniting swarms.]

AN ALBINO REDBREAST.—A few days ago I captured a pure white Robin. It is a young bird about seven or eight weeks old. It has pink eyes and beak, and feet of a delicate yellow colour. Will some one inform me whether it is likely to moult into its proper colour, and what is about the value of such a bird?—A. B. BAILEY, *Shooter's Hill, Longton, Staffordshire.*

OUR LETTER BOX.

MOULTING (A. J.).—As a rule, fowls moult as soon as laying and sitting are over—that is, about the end of July. The time to recommence laying varies, but adult fowls seldom lay till the end of January. Some breeds moult in less time than others; it lasts about two months. Spanish are longer about it.

GAME FOWLS (J. Nelson).—The loss of one spur by an accident is no detriment to a Game cock in exhibition. There are two Duckwings, the old copper-saddled and the silver Duckwing. The hens of the former have the Robin or salmon breast, and generally a little bluish on the wing, but the latter must have none of it anywhere.

COCHIN-CHINA HEN INJURED (A Reader).—Your hen is injured in the back. It often happens at this time of year when the cocks are too numerous. As you say, she is about to sit; she has, of course, ceased to lay, or the same appearance would be presented if she were egg-bound. As it is always necessary in such cases that the patient should be separated from the others, you cannot do better than let her sit.

WHITE TURKEY FOWLS (W. J.).—A White Turkey is not a rare bird, but it is very uncommon to breed them from coloured birds. You will have no difficulty in obtaining a proper mate, as there is a distinct breed of them. The present case may be a sport, or it may be there has at some time been some white blood in one of the birds, and she has thrown back to it.

EXCESSIVE ONE ON SPANISH FOWLS' FEACES (A. W.).—Most of the excesses you name are the result of pecking. Hens are very fond of pecking the cocks' faces, but pecks and hens are now like getting shabby. It is an unnatural habit, and often arises from diseased or disordered bodies. A free supply of lettuce will cure most of these disorders; we have found it most advantageous.

FEATHERING BRAHMA FOOTBALL, TURKEYS, AND GEES (Llew).—Brahmas should be very well fed, but allowed liberty. Turkeys and Geese should be shut up; an out-house or even a large pigsty is good for either, but if Turkeys are put in it must be bounded all round with hurdles lengthwise, and leaning inward. They must also have perches. Good ground only mixed with new milk, and a little grass added, are very good for young Brahmas. Turkeys require the same or better meal, with a little pease mixed, if with milk so much the better. They feed well out of a pig-trough. Geese want oats, bran, gravel, grass, and some people give yellow chandler's greaves.

POULTRY MARKET.—JULY 2.

The excessive heat has caused very fresh poultry to make larger prices than it would have done in cooler weather, but much was spoiled.

	s. d.		s. d.		s. d.		s. d.
Large Fowls.....	4 0 to 6 6	Guinea Fowls.....	0 6 to 0 0				
Smaller do.....	3 0 " 5 6	Partridges.....	0 0 " 0 0				
Fowls.....	0 0 " 0 0	Hares.....	0 0 " 0 0				
Chickens.....	2 0 " 2 6	Rabbits.....	1 8 " 1 4				
Green Geese.....	6 0 " 6 6	Wild do.....	0 8 " 0 9				
Ducklings.....	2 6 " 3 0	Pigeons.....	0 8 " 0 9				

WEEKLY CALENDAR.

Day of Month	Day of Week	JULY 10-16, 1886.	Average Temperature near London.			Rain in last 50 years.	Sun Rises.		Sun Sets.	Moon Rises.		Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.		m.	h.		m.	h.				
10	Tu	Ageratum.	74.8	50.5	62.5	15	56	af 8	14	af 8	26	af 2	14	af 6	191
11	W	Aloe depressa.	75.0	50.8	62.9	10	57	8	13	8	25	8	10	7	192
12	Th	Aloe dichotoma.	75.7	50.5	63.1	19	58	8	12	8	31	4	57	7	193
13	F	Aloe distans.	76.5	51.2	63.8	18	0	4	11	8	41	5	35	8	194
14	S	Aloe latifolia.	76.5	50.7	63.6	14	1	4	10	8	55	6	9	9	195
15	Sun	7 SUNDAY AFTER TRINITY.	76.8	50.3	63.5	20	2	4	9	8	6	8	36	9	196
16	M	Aloe saponaria.	75.7	49.5	62.6	15	3	4	8	8	15	9	8	10	197

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 75.7°; and its night temperature 50.5°. The greatest heat was 96°, on the 14th, 1847; and the lowest cold 84°, on the 16th, 1868. The greatest fall of rain was 1.60 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

ROSE STOCKS.



HERE has been so much written by our great rosarians on stocks for Roses, that it may almost appear presumptuous in me to reopen a subject that has been,

apparently, so thoroughly ventilated. I only do so for the purpose of calling attention to the following stocks, which I do not remember to have seen mentioned before, they are what is called the Shanghai Rose and Fortune's White Banksian Rose. They are both of them most invaluable as stocks for the more delicate kinds of Roses.

Four years ago I received some cuttings of Fortune's White Banksian Rose from my friend Mr. Drewitt, of the Denbies, near Dorking, where it may be seen to great perfection in the glass arcade. It, the beautiful Gloire de Dijon, and the other beauties of the Denbies, are worth travelling some hundreds of miles to see. About the same time Sir Philip Egerton obtained a plant of the Shanghai Rose in one of the Royal Horticultural Society's ballots for new plants. Two of the plants that had been raised from Mr. Drewitt's cuttings from the White Banksian were planted out in the large Camellia-house at Oulton Park, and as the plants grew so rapidly, it struck me that they would make useful stocks for working the more delicate kinds of Tea Roses on. I accordingly inserted some buds on the plants in different places, and found that the union between the stock and bud was very soon complete, and the bud speedily commenced to push vigorously, going far to prove that Fortune's White Banksian is the finest of all stocks on which to graft or bud the more delicate kinds of Tea Roses. One of the most important points in the favour of this stock is that the bark will at all times very readily part from the wood, even if the latter is two or more years old, provided the plant at the time is in a free-growing state.

Another great advantage is that cuttings strike very readily, and as the plant soon furnishes itself with a large number of healthy roots, it takes but a short time to establish itself. Any kind of Tea Rose may, therefore, be worked on it, either by grafting or budding, very soon after it has been struck; and after it has well established itself, the Rose worked on it will afford some extraordinarily fine blooms, such as cannot be produced by any other stock, and there is no fear of the stock sending out any suckers below the surface of the soil. The cuttings which I put in are generally about 8 or 4 inches long, and if they have a heel attached so much the more rapidly will they strike; but where this cannot be managed they will be found to strike very readily from cuttings made in the ordinary way. I invariably find that if the cuttings are cut slanting, instead of straight across, they always strike

more freely, and grow more rapidly after they have struck, because there is a greater surface from which roots can be emitted when the cut is made from 1 to 1½ inch long. The cut should be commenced about the same distance above the eye as it comes out below it, leaving the bud about midway, and if the cutting is taken from the middle of the shoot two eyes will be sufficient. That at the base must be cut clean out to prevent its throwing up any shoots from below the soil, and that at the top must be carefully preserved to form the future plant. I generally use thumb pots, putting one cutting in each, and as soon as the cuttings have struck they are shifted into 48-sized pots.

When the roots have reached the sides of the pot the plants may be either grafted or budded, according to the state of the bud or graft and the stock; if it is found that the stock is not sufficiently strong for budding it may be grafted. In doing this, however, great care is necessary, for if too deep a cut is made the young free-growing stock will often break off. The top of the plant should be left intact for the purpose of drawing up the sap. A small clean cut is all that is necessary to be made, and it should be as near the base as possible, and the graft must be made to fit as nearly as possible the cut in the stock. If this is bound round with a small piece of matting just to keep the graft from slipping out of its place, finishing the operation with a covering of Thomson's styptic, the union between the graft and the stock will soon be complete.

As soon as the operation of grafting has been finished the plants operated on should be plunged in a very gentle hotbed, and after the grafts have taken they must be gradually inured to a cooler temperature; a sudden check caused by bringing the plants from a close and humid atmosphere, even after the union between the stock and graft is complete, will in most cases cause the graft to dwindle away, and if it do not die altogether it will be years before it gain sufficient strength to grow with any vigour.

Plants of the Shanghai Rose were planted out against a south wall, and the first year after they were planted they grew at a most astonishing rate; shoots 12 and even 15 feet long were produced in one season. Some of these I made into cuttings 2½ inches long, and a piece of ground having been firmly trodden and afterwards nicely levelled off, shallow trenches, 2 inches deep, were then cut at 10 inches apart, and the cuttings were placed against the upright side, some road sand being sprinkled beneath them and around their bases. The soil was then firmly trodden about them. The cuttings were prepared just in the same way as recommended for the Banksian cuttings. Scarcely a cutting missed, and as soon as they were rooted they grew very rapidly, and in a short time afterwards many of them were budded.

All kinds of Roses appear to take and grow with great vigour on the Shanghai Rose stock, and if the bud is cut clean out from the base of the cutting there is no fear of the plants sending up root suckers, which is one of the worst faults of the Manetti stock. The plant is perfectly hardy, even in a very cold and wet climate like that of Cheshire. I therefore venture to predict a brilliant future

for the Rosés worked on this stock for the open ground; and the advantages will be equally great in the case of Tea Roses grown on the White Banksian Rose for pot-culture and in-door cultivation.—J. WILLS.

RED SPIDER AND THRIPS ON VINES.

I COULD not discern a single insect on the Vine leaf sent by "R. H. B.," but there were traces of red spider, and two or three marks as if thrips had also been nibbling. He will easily know the red spider, whether it has obtained the red colour or not, by its quick movements and its rather round dimensions. The thrips, whether of a blackish, brownish, or whitish colour, according to its age, is two or three times the length of the red spider, but no thicker in the body, and he must have quick eyes to note the dimensions of the insect, as when he comes near it, it is almost sure to jump beyond reach. This jumping will at once enable him to guess what insect he has, or if he has both.

"R. H. B.'s" Vines are quite forward enough, the berries being nearly swelled to their full size, to enable him to use strong measures; but if the berries are not colouring I would not hesitate under the circumstances to give the whole plant, and especially the foliage, a good lashing with Gishurst, or with softsoap water at the rate of from 1 to 2 ozs. to the gallon, shading the house the day afterwards, keeping it rather close, and then following for a week afterwards with good syringings, about 4 o'clock p.m., with clear water at 120°. Moisture is the aversion of the red spider; a dry heat its greatest enjoyment. Sulphur fumes are also a great annoyance, though I do not think they kill the intruder so much as make him uncomfortable, and cause him to be glad to shift his quarters. As for sulphur itself, he cares no more for it than he would do for any other dust, walking amongst it with the greatest seeming enjoyment when it is scattered over a leaf. When the active principles of the sulphur can be conveyed in water, or the fumes driven off at a temperature not above 160°, the red spider seems to be rendered very uncomfortable.

The washing with Gishurst, as an antagonist to the red spider, depends very much for its efficacy on the sulphur suspended. In the case of Gishurst, or softsoap water, if either be boiled ten minutes and then allowed to settle, they mix better with the water, and no marks are left on the foliage. Followed the day after with clean water, I do not think that the slightest marks would be left on the berry. As easily obtainable, no better remedy for many insects is to be found than softsoap water. I have found that it quickly settles red spiders which are alive, as well as other insects quite as difficult to master. The mischief is, that wherever they find a lodging they keep their place good for some time by successive generations. For destroying insects softsoap is far superior to bar soap; but I am not learned enough to know whether that is owing to the potash it contains, instead of the soda, which forms a part of the bar soap. The softsoap water seems to act, to a certain extent, like glue water; but at the strength stated, and referred to lately in "Doings of the Last Week," it leaves no traces behind it, and does no harm to Peach trees nor Vines. At that strength it would not be safe to syringe Cucumbers or Melons, unless they were much shaded, until they had had two or three syringings with clear water. I mention this by way of a caution.

The mode of application is also of importance. People hear of a remedy and straightway resort to it; but they are either too careless or fail to attend to some simple matters of detail, and then they blame the plan instead of themselves.

This spring some shoots of Peaches, quite killed with Gishurst, were sent to me. It had not only been applied hot, but three times stronger than any directions of the inventor would have warranted. A short time ago, a few Peach leaves, spotted and disfigured, were sent with an angry note, the purport of which was—"See what your soap water has done." As for the water I can say nothing, nor of the strength, but from the few leaves I could have collected as much as a quarter of an ounce of softsoap in its original state—how applied I know not. If the softsoap had been previously boiled, and then mixed with the warmed water, I make bold to say not a particle of the soap in its original form would have been found on the stems or leaves. Many of our best medicines are poisons when taken in quantity.

While advertizing to red spider, I may also allude to a case of killing some shoots with strong lime sulphur water, a wash

which, as recommended by me, keeps down, if it does not destroy, the intruder, and leaves no trace of its application on the foliage of Peach or Vine, nor yet on the fruit when young; but which is injurious to such fruit, and especially the fruit of Strawberries, after they begin to swell. The liquid had been used far too strong. The strength which I advised, and which never should be exceeded, and for all tender plants should be much reduced, is as follows:—Take 1 lb. of sulphur and 1 lb. of quicklime, mix together with a gallon of water, boil for ten or more minutes, allow to settle until cool, then pour off the bright liquid into a vessel that can be kept close; earthenware is best. Add one quarter, or a quarter of an English pint, of this strong acrid liquor to six gallons of water, and stir and use, and even then the milky liquid will smell more than a bed of Onions when you walk through them. I know of no method superior to this for communicating the acrid properties of sulphur to water. At the above strength, though whitish in appearance, the liquid will leave no mark or residuum on the foliage; it will also clear the leaves of Strawberry plants, but it will injure the fruit if the latter has come to its second swelling. A few quarts of such a powerful liquid will go a long way, but if people, disregarding minutiae, will use a quart instead of a quarter, or gill, and do mischief, that is their affair.

As involving a little more labour but making more certain in the end, there is another remedy for red spider, and that is to shorten and remove all laterals, and then sponge the leaves with softsoap water at about 2 ozs. to the gallon. The red spider chiefly congregates on the lower side of the leaves, and a handy man will soon go over a small house and thus sponge every leaf.

Much may be done with the hands and fingers; in fact, many insects might thus be destroyed in the time we are getting other means and appliances ready. For instance, early in the season green fly is apt to attack the buds of Strawberry plants just coming into bloom in houses. A good smoking with tobacco will destroy all the insects that are alive, but as we go along, examining as to watering, I much prefer that all such should be squeezed between the thumb and fingers, the heads being afterwards well washed with the syringe. By attending to such matters at once, I have often passed through many seasons and never required to give any smokings to early Strawberries.

Even when it would not be advisable to wash the leaves owing to the forwardness of the fruit, a damp atmosphere may be maintained by damping the walls, floors, stages, &c., and fumes of sulphur may be given off by daubing the walls with sulphur paint made of sulphur and water, and better still with sulphur and strong soap water. The heating pipes, or flues, may also be well smeared, but the heat of either in such a case should not exceed 160°.

For thrips, all such means as the above will also be so far effectual in making the merry jumping fellow uncomfortable; but to destroy him tobacco smoke must be resorted to, and that frequently, each time following within two or three days of the other, as, if ever allowed to establish themselves, fresh broods will be hatched for some time after the first colonies have been destroyed. For moveable plants much infested, I have found no plan better than immersing the head of the plant in soap water, glue water, or tobacco water, allowing the plant to stand in a shady place for a couple of days, and then syringing it well with water at about 120°. After smoking a house and keeping it as close as safety will permit the following day, a good syringing with clean water would be advisable, but if the Grapes are colouring it is best dispensed with.

Even with the hands a great deal may be done with this insect in a small way. If on Vines, the insects usually exhaust one leaf before they go to another, and most generally prefer old leaves to younger ones. A good deal may be done in the way of riddance by going over the vinery, and taking off quietly, but quickly, every leaf so affected, rolling it up, and placing it at once in a bag or the pocket, and then burning the proceeds. When I had less to do I used to keep Cucumbers and Melons clear of this destructive visitor by examining those grown on trellises in a small house, and whenever one showed on a leaf, daubing him at once with thumb and finger wetted either with clean, or, better still, with soap water. In such a case the eye and the thumb must be quicker than the flea-like jump of the intruder, or the art must be obtained, which can only be learned by experience, of perceiving as it were by intuition which way the little fellow will jump. A very little time thus spent in a morning would go a good way towards keeping

insects down, and save much trouble and expense in fumigating, &c.; for in small places the expense of tobacco is a serious item, and if the smoking is too long delayed it is too often expense thrown away. Where the labour power is at all near the mark, a great deal can be done in keeping down insects by means of nimble fingers, and the free use of the syringe with clear water.

If "R. H. B.," however, has the thrips on his Vines, I would advise him to pocket or bag carefully some of the worst leaves; to fumigate with shag tobacco the same evening; to keep the house shaded and as close as he can next day to be safe; to preserve a rather moist atmosphere by wetting the walls, stages, paths, &c.; and on the afternoon of the second day to give a free lashing from the syringe all over the foliage. For red spider wash or syringe as above stated, shut up close, and on the next evening when the leaves are dry put on a fire, and keep the heat specified above on the smeared pipes or flue. Bear in mind this simple fact, that all smokings with tobacco and other fumigations are most safe and effectual when presented to a dry leaf. If damp the insects are so far sheltered; and how, we know not exactly, the wetter the leaf the greater the danger to vegetable vitality from such smokings.—R. F.

CULTURE OF HERBACEOUS CALCEOLARIAS.

In the first place, every endeavour should be made to secure a packet of first-class seed from a well-proven source, as the bad sorts require just the same space and attention as the good; besides, the pleasure in the end of having a superior to an inferior quality of flowers will infinitely outbalance the extra trouble and expense.

About the beginning of July, the seeds ought to be sown in pans well drained, on the following compost, after being thoroughly incorporated—two-fourths rich fibry loam, one-fourth leaf mould and old mushroom-bed dung, one-fourth silver or river sand, the whole put through a fine riddle. Fill the pans about half up with crocks, putting a thin layer of the fibry portions of the riddings over the crocks, the remaining half fill with the soil, when slightly press and smooth the surface, then scatter over the seeds, and finish with sifting a little soil over, and give a sprinkling of water through a fine rose.

The pans may be placed in a shaded part of a pit or frame, near the glass, where they can get a little bottom heat, or, better, on the back shelf of a vinery, near the ventilators, where they may have the advantage of both heat and air. If the Vine-roads are insufficient to shade the pans with their leaves, pieces of glass whitewashed above will be found necessary to cover them until the plants have made some progress, and can stand exposure.

Remove daily the drops that will gather on the under surface of the glass, so that they do not fall among the young plants, and never permit the plants or soil to get dry or crusted, but keep both slightly moist with water.

When the seedlings have made sufficient strength to be handled, prick them in lines into boxes, and give a good shower through a fine rose, that will lay the earth to their roots, and return them to their old quarters, shading as before, until they are on their feet again, when they may be removed to a cold frame or pit; place them near the glass, shading in strong sunshine, and giving sufficient air to harden them off by degrees to the full exposure of air and light.

Continue to keep their foliage damp, and never allow them to flag for want of water at the root, or with the sun, throughout any stage of their growth, and in a short time they will be prepared for a shift into pots 3 inches in diameter; cut out their balls carefully into squares, and place them individually into the pots, using soil the same as recommended for the pans, only more rough. The plants will not appear to suffer from the shift, but will continue growing, which growth ought not to have a check up to the time the flowers make their appearance.

If green fly pay them a visit, take advantage of them when the foliage is dry, by giving a smart smoking with tobacco paper, and administer a good lashing with the syringe after the smoke has passed away.

In a short time, if all prospers, the roots will be through the soil, when a larger shift will be requisite, which on no consideration ought to be neglected, or put off till to-morrow—procrastination, or any other cause of prevention, will be found ruinous, as nothing can be worse than allowing them to get pot-bound, in which case the consequence will surely be stunted plants, that will send up flower-stalks weak and premature; whereas

a regular succession of shiftings up to 10-inch pots, will produce really good plants. About the beginning of November, prepare a place in the greenhouse as near as possible to the glass without endangering them to frost. Place them there for the winter, after carefully washing and clearing the pots of weeds, being careful not to break the leaves in the operation, and continue to treat, as regards watering, syringing overhead, and potting, when needful, as the winter passes. As soon as the plants are established in their last shift, give a good soaking of liquid manure, at the rate of 40 gallons of rain water to 1 lb. guano once a-week, up to the time the flowers begin to expand, when it may be discontinued. Turn the plants every time you have occasion to water, that they may be well balanced with the foliage, and, as soon as the flower-stalks are of sufficient length, stake out, and finally stage to flower.—A. KERR (in *Scottish Gardener*).

EUCHARIS GRANDIFLORA.

THE large plants exhibited at the International Horticultural Exhibition on the 22nd of May last are now throwing up a greater number of flower-spikes than when shown, and will be in full flower in the course of ten or twelve days. Their having been removed from the stove to retard for the International accounts for their not being in flower earlier. A small plant now in full flower has never been subjected to anything but stove temperature. I find one portion of the bulbs rest of their own accord, while the others are growing and flowering. They are supplied with a couple of large watering-potsful of clear liquid manure every alternate day.—W. HOWARD, Gardener to James Howard, Esq., Bedford Hill, Balham.

HEAT SAVED VERSUS HEAT USED.

In your Journal of June 12th I read a long article on flued walls, and as this and its kindred subjects have long occupied my attention, I hope Mr. G. Abbey will excuse my assuming that his article was not what is called an exhaustive one, and will permit me to assist him in his effort to ascertain why flued walls are not, as a rule, successful. To see clearly, we have all first to get rid of our prejudices; in fact, try for a season to forget what we know, and I am quite sure for a gardener of the present day, who is expected to make either a south wall or a flued wall successful, this is especially needful. He must be able to forget and cease to sigh after the grand houses in the nobleman's garden where he went as an improver, before his mind will be open to believe that without all the costly appliances now considered necessary, good fruit can be grown at its usual season, and bring himself to take the pains required. Is it not written, "Man shall earn his bread by the sweat of his brow?" which means, I believe, by labour assisted by steady thoughtful care, nay, even anxious care, for who has not felt the cold moisture start on his forehead as he hurried, fearing his forgetfulness had ruined all his hopes? Then why should it be considered, as it undoubtedly is, beneath a gardener to waste his time in growing fruit if his master does not supply him with a house so replete with appliances, that the fruit produced will cost a fabulous sum per pound? This cost of production is quite lost sight of, and the simple means that enabled the last generation to produce good crops are neglected, in order that the time and attention may be devoted to what is properly out of season. I mean, that if gardeners understood the capabilities of the houses under their care they would by forcing have had these crops out of hand, and thus been able to devote their time and attention to the walls. Gardening should be looked upon as a business, and gardens worked for a profit, and then they will be carried on with economy and spirit, which bring with them a certain amount of anxiety, without which no business is healthy.

From whence come the fine Pears? The answer is ready—from France; but this does not explain my meaning. To what system do we owe their production? Those who have not travelled much, or resided for a time in France, have very little idea of the number of gentlemen with small incomes, who think they would lose their claim to be considered gentlemen if they went into trade; but, fortunately for them, selling the produce of the farm and the garden is not considered as being in trade; and what better way of lengthening out a small income than by means of a good kitchen garden? So these educated men give their minds to the subject, and not only make it pay, but find in it a healthy, pleasurable occu-

pation. Was it not Sir Joseph Paxton who said, "That gardening was the only hobby he knew which, if carried to excess, did no harm?"

In this country gentlemen consider their own time of too much value to devote it to the study of gardening, and look upon it as something beneath a gentleman; it is, therefore, left to the gardener, and he is often only intent on beating his neighbours at the autumn show, and never thinks that the summer is precious time, which should be economised by having previously done all that he could. He, poor fellow, has no hope that extra produce from the garden will improve his position, and as all things act and react, it ends in his being looked upon as one of the expenses of housekeeping that must be, and he finds, accordingly, that his trade is one of the worst paid.

Let me, then, encourage those who think it is worth their while to say, "What man has done, man may do," for the sun's rays are as warm as ever, and if its heat is "saved," or, here I may use a better term, economised—that is, made to last as long as possible, it will be found that in sunny districts as much heat can be obtained during the summer months as is now "used" in the best heated structures. In Speechly's day, which takes us back to a period when iron pipes were unused, the best example of a forcing-house was the Dutch—a fined wall 10 feet high, with a glass front 5 feet from the wall at the bottom, and 3 feet from the wall at the top. The two important points here are the nearly-straight glass front to catch all the light, and the small area the flue was expected to heat. Such a house, he says, will enable you to ripen the fruit in May. As the season advances, he adds, your requirements diminish, for the sun will be higher, and therefore the pitch of the roof can be lower, enabling the house to be wider. He also says there is now no longer a necessity for a glass front, and for walls; oiled paper put on at night will do, and it will also replace the glass on frames, which can then be used for a better purpose. Miller goes over the same ground and gives the same reasons. When gas was introduced it is related of a shopman, that he was so pleased as to say it was better than daylight, and would save all the trouble of having windows; and now pipe heat is so convenient, that many gardeners act as if they thought it was better than sun heat. It certainly is much more regular, and saves the constant care over the ventilators required when the sun heat is permitted to enter.

We still find a heated glass wall is the best forcing structure; it is not safe without heat, because it brings on the trees too fast, and is not able to keep the late frosts out; therefore, after a heated glass wall, a sheeted-up wall is preferred. The Rev. W. F. Radclyffe, of Okeford Fitzpaine, is very successful with his wall, he sheets the trees over every night, and leaves them so covered on very cold days. By this treatment he not only saves them from the late frosts, but how much radiation does he retain? Then, will glass walls without heat fail if they have the same careful treatment to retain the heat otherwise lost by radiation? I think not, and when trees have been forwarded by means of a fined wall, they should be protected by a good sheet, not a mere net, and the thermometer should be closely watched that this heat is not employed when it is not required. The thermometer should be considered by each gardener as his best friend. Let those, then, who have such walls, read what Mr. Radclyffe wrote for your pages, give no more heat than is required, syringe with care, shut up early while the sun heat is still in the wall, and I shall be very much surprised if they do not find the thermometer indicate that a much higher temperature has been retained than is required, and I am sure they have no need to fear that the crop will end in being ruined with red spider. I will go further than this, and say I have a very strong belief that the attention of the gardening world has been so taken up and occupied with the advantages cheap glass has conferred, that south walls have not received their proper notice, and it will be found if due care is taken to retard the trees as long as possible in the spring, so that the sun may have attained some power before what I may call the growth of the crop has commenced, that they will, if the care I have previously advised be taken of them, ripen their fruit as early as similar trees on the back wall of an unheated orchard-house, and quite two weeks before those in any other unheated glass structure. I some time since invited, through your valuable Journal, our orchard-house authorities to join me in trying experiments in this useful field of inquiry, and I hope before the summer is over we may hear some good reports from some of them, meantime our thanks are due to Mr. W. F. Rad-

clyffe, he has preserved his faith in good old plans that have been called slow, and now serves to make me, for one, wish I had not run any faster.

I send you what may interest some, the maxima and minima temperatures for each week during the summer at Stornoway, where Mr. Rivers says there is a successful unheated orchard-house. It will show how little heat is required.

APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPTEMBER.	
Week ending		Week ending		Week ending		Week ending		Week ending		Week ending	
8	15	22	29	5	12	19	26	2	9	16	23
8	15	22	29	5	12	19	26	2	9	16	23
Max	54	55	56	58	57	58	57	70	62	64	75
Min	30	30	35	37	35	35	40	44	44	39	42

The highest Maximum 75°, and the lowest Minimum 30°.

—G. H.

ENTERTAINMENT GIVEN BY MR. W. WILSON SAUNDERS.

On Friday last Mr. W. Wilson Saunders, of Highfield, Reigate, gave his annual entertainment to the members of the Entomological Society and to several others of his scientific friends. The programme commenced with the mustering of the visitors on the arrival of the 9.10 A.M. train from Charing Cross, who, headed by Mr. Saunders, wended their way through the town and along the road which leads across Reigate Common. Proceeding in that direction they passed Flanchford, and describing a semicircle round the town they reached Sidlow Bridge, where the party refreshed themselves by luncheon. The weather being unsettled and varied by alternate thunderstorms and sunshine, much of the pleasure that generally attends these pleasant excursions was marred. On returning to Reigate at 5 o'clock the party found a large addition to their numbers of those who, prevented by the threatening aspect of the weather, did not arrive till later in the day. But a very important part of the day's performance was yet to be gone through, for in the Town Hall Mr. Saunders had prepared a most sumptuous and elegant entertainment, to which his guests were all invited. Not fewer than 150 gentlemen sat down to this entertainment under the presidency of Mr. Saunders himself, supported on the right by Sir John Lubbock, Bart., Mr. Bennett, of the British Museum, and Mr. George Busk, Zoological Secretary of the Linnean Society; and on the left by the Mayor of Reigate, Lieut.-Col. Scott, R.E., Secretary of the Royal Horticultural Society, Professor Westwood, of Oxford, and Mr. Currey, Botanical Secretary to the Linnean Society. After the loyal toasts, proposed by the Chairman, he gave "The President of the Entomological Society," to which Sir John Lubbock responded in a humorous and clever speech. Mr. Saunders then gave "The Treasurer and Secretary," which were duly responded to by those gentlemen. Then followed "The Royal Society," the parent of all the scientific societies of this country, to which Mr. Busk replied; "The Linnean Society and Mr. Currey;" "The Royal Horticultural Society and Colonel Scott and Dr. Hogg," to which those gentlemen respectively responded; "The Authorities of the British Museum and Mr. Bennett;" "The Schools of Science and Professor Westwood," &c.

All who were present united most cordially in doing justice to the toast of Mr. Wilson Saunders' health, proposed in earnest terms by Sir John Lubbock; and with a warmth of feeling which every individual could not but feel found a responsive echo in his own breast.

About half-past eight o'clock the party separated, thanking the generous and kind-hearted patron of all the sciences for a day of infinite pleasure.

THE BRIDAL BOUQUET OF THE PRINCESS HELENA was by special permission presented by Messrs. Veitch & Sons, of the Royal Exotic Nursery, Chelsea. It was composed of Orange Blossom, Myrtle, choice Orchideous flowers, Gardenias, Stephanotis, &c., and elegantly trimmed with real Honiton lace to match the dress. The Myrtle was sent from Osborne by command of Her Majesty, and was taken from plants propagated from that used in the bridal bouquet of H.R.H. the Crown Princess of Prussia.

WEATHER IN NORTH OF IRELAND.

THINKING that the weather we have had lately in this "far north" part of Her Majesty's dominions may be of some interest, I send the following observations made during the week ending June 29th.

	Therm. during 24 hours in shade.		Hygrom. at 12 o'clock noon.		Wind.
	Max.	Min.	Dry Bulb.	Wet Bulb.	
June 22nd....	67°	47°	67°	63°	S.W. Showery.
" 23rd....	76°	55°	76°	70°	S. Cloudy.
" 24th....	86°	49°	81°	70°	S.W. and to N. Clear.
" 25th....	87°	49°	87°	78°	N.E.E. Clear.
" 26th....	91°	55°	88°	74°	S.E. Clear.
" 27th....	78°	54°	78°	66°	N. Cloudy.
" 28th....	78°	48°	73°	64°	N. Clear.
" 29th....	86°	51°	86°	73°	S. Clear, but with heavy rain at night.

—ALBAN GOODMAN, *The Palace Gardens, Londonderry.*

CULTURE OF FERNS FROM THE SPORE.

THIS is easily accomplished with most of the families both native and exotic. The following will be found a very effectual mode of treatment for natives:—

At the beginning of March, select a warm corner of the side stage of the greenhouse; place in a board 2 feet square, then break small a quantity of crocks, and cover the board to the depth of half an inch, chop up very fine a little sphagnum moss, and cover the crocks; next sift through a fine sieve a quantity of sandy peat, with a small proportion of fresh loam, then mix up with a quantity of silver sand equal to both, press the moss level, and lay this compost on an inch deep, and when done, slightly smooth and press lightly over the surface, then give a slight watering out of a fine rose, and when the water has subsided, sprinkle on the spores pretty thick, and finish by putting a hand-glass over all, first painting or whitewashing the glass to cast off the sun's rays; keep the glass close, excepting on days of strong sunshine, when the glass ought to be raised a little at one side up to the moment the plants make their appearance, giving a sprinkling of water when the surface shows signs of getting dry; thus continue to keep the soil damp, but stagnant water must be avoided.

The plants, in the first stages of formation, will be recognised in the minute cups that make their appearance on the beds, and which will soon start up fronds. As soon as they can be handled, remove the board off the stage, and place another in its stead, which cover as recommended for the others, only making the bed of earth double the thickness. Take the plants singly out with a pointed stick, and prick into narrow rows on the new bed; give a slight watering out of a fine rose, and return the glass as before; keep shaded for a few days until the plants have begun root-action. When air can be admitted by degrees, in a few weeks the plants will be fit for pots, when all danger is past.—A. KERR (in *Scottish Gardener*).

ROYAL HORTICULTURAL SOCIETY.

JULY 3RD.

FLORAL COMMITTEE.—At this meeting Messrs. Backhouse, of York, exhibited a very fine specimen of a new *Dipladenia*, *D. amabilis*, with very large bright rosy flowers, a very superb variety, which was awarded a first-class certificate; also a good variety of *Lelia purpurata*. Mr. Bartleman, Leybourn Grange, received a first-class certificate for a seedling hybrid *Zonale Pelargonium*, King of the Nosegays, with large trusses of bright orange-scarlet flowers, which promises to be a most useful bedding plant. Mr. William Paul received a first-class certificate for *Zonale* hybrid *Nosegay Nimrod*, trusses of bright orange scarlet, very free flowering. Mr. W. Paul also exhibited several other seedlings, which have been noticed before, Rebecca, St. George, and Blue Bell, and a variegated form of *Hibiscus syriacus*. From Mr. R. Burcham came a small collection of British plants found on Hampstead Heath, two varieties of *Drosera rotundifolia*, and *Mainanthemum bifolium*, considered rather a rare plant. Messrs. Osborn, Fulham, sent six fine Heaths, which were awarded a special certificate; and Mr. Watson, St. Albans, received first-class certificates for two seedling tri-color *Zonale Pelargoniums*—Miss Watson, a variety quite equal to Mrs. Pellock, the colours perhaps brighter, and Mrs. Dix, a compact-growing plant with medium foliage, with a dark almost black zone, encircling a bright red inner zone. Mr. Watson likewise exhibited *Zonale* tri-color *Nosegay* King of Nosegays, and *Zonale* *Enchamstress*, with dark sonate foliage. Mr. Brewer, gardener to — Terry, Esq., Fulham, received a special certificate for a very handsome plant of *Lilium auratum*, bearing twelve lovely flowers. Mr. James Keeler,

gardener to John Todd, Esq., sent two seedling *Zonale Pelargoniums*—*Delicatum*, and *Sambo*, a very dark scarlet; and Mr. Anderson, gardener to T. Dawson, Esq., Meadow Bank, exhibited some fine specimens of cut Orchids, which were awarded a special certificate. Messrs. E. G. Henderson received a first-class certificate for *Caladium Napoleon III.*, a fine variety with bright green foliage, mottled with deep rosy markings and veins; and they also exhibited cut specimens of *Allamanda Schottii* Hendersoni, with fine, large, deep yellow flowers; doubts were expressed as to its being a distinct variety. From the same firm came also *Orchis maculata* superba, and three most magnificent spikes of seedling *Zonale Pelargonium* Duke of Edinburgh, with pale yellowish leaves, marked with a bronzy zone; also fine specimens of *Pelargonium Italia* Unita, Lucy Grieve, &c. Messrs. Stuart and Mein, Kelso, had a seedling hybrid *Statice Duchesne*, very much like profusa; and Messrs. Lee, Hammersmith, two seedling *Ericas*—*vis.*, *E. tricolor* pulchella, a pale-coloured flower, but pretty, to which was awarded a second-class certificate, and *E. ampullacea* oblata, a white variety of no particular merit.

W. Wentworth Buller, Esq., sent some beautiful specimens of cut Orchids, which were awarded a special certificate; also, a plant of an old and well-known Orchid, *Promenaea stapelioides*. Messrs. Veitch, as usual, contributed largely to the exhibition both novel and interesting plants. First-class certificates were awarded to the following:—*Nepenthes lanata*, a very curious Pitcher-plant; *Nepenthes* sp. from Borneo; *Lomaria* *dura*, a valuable hardy greenhouse Fern; *Lomaria ciliata*, very beautiful and distinct; *Davallia alpina*, *Davallia parvula*; *Acalypha tricolor*, a stove plant with dark yellow and red-mottled leaves; *Nierembergia* sp., quite hardy, with pale flowers like *N. filiculis*; and a cut specimen of *Dipladenia amabilis*. A second-class certificate was awarded for *Pescatorea*, or *Huntleya*, *serena*; and a special certificate for a very handsome specimen of *Blandfordia nobilis*. In the general collection we noticed a new *Spherozyne*; *Lomaria Belli*, which had received a first-class certificate; *Lomaria zamiaefolia*, and *Lomaria Moritziana*, which it was requested should be sent again. A collection of plants from the Society's gardens at South Kensington, contained Orchids and a very fine specimen of the late-flowering *Rhododendron Jenkinsii*, which was awarded a special certificate. A very interesting though small collection of plants was sent from the Chiswick Gardens. Among them were a very fine Fern, *Stenochlisma tenuifolia*; cut specimens of *Liriodendron tulipiferum*, the Tulip tree; also two kinds of Horse-chestnut, *Aesculus indica* and *Aesculus californica*.

FRUIT COMMITTEE.—Mr. C. Oldham, Honorary Secretary of the Wrexham Floral and Horticultural Society, exhibited two seedling Strawberries, Sir Watkin and Denbigh Seedling; and from Mr. Turner, Slough, came a fine large-fruited variety called Dr. Hogg, to which a first-class certificate was awarded. Further mention of these will be found beneath. From the Society's garden at Chiswick came fruit of Sir Charles Napier, Reeves's Eclipse, La Constante, and Vicomtesse Hericart de Thury; also three early varieties of Cherries. The only other fruit shown consisted of British Queen Strawberries from Mr. Keeler, Wood House, Dulwich; and Grosse Mignonne Peaches from Mr. Merrett, Battersea Rise.

FORTNIGHTLY MEETING.—Viscount Sandon, M.P., in the chair. The awards of the Floral Committee having been announced, Dr. Hogg made a few remarks on the subjects brought before the Fruit Committee. Denbigh Seedling Strawberry, he said, was a large coarse-looking variety with a peculiarly acid flavour, and Sir Watkin, a seedling from Sir Harry Paget-Pemberton with Black Prince, had a long conical fruit, very similar to Williams's Black Strawberry, and black firm flesh with an insipid flavour. With regard to Strawberry Dr. Hogg, for which Mr. Turner had received a first-class certificate, it was raised by Mr. Bradley, the gardener at Elton Manor, who was also the raiser of Oscar, Sir Joseph Paxton, and other varieties. The fruit was described as being wedge-shaped, somewhat corrugated longitudinally, of a pale red colour, with white flesh, and a flavour similar to that of the British Queen. Unlike that kind, however, it was stated to colour regularly all over, and to be much more hardy and a better bearer. With reference to the varieties from Chiswick, Dr. Hogg said of Vicomtesse Hericart de Thury, that it is an abundant bearer, having a high flavour perhaps unsurpassed by any other kind. La Constante, raised by M. de Jonghe, of Brussels, bore carriage better than, perhaps, any other kind, the flesh being firm and solid, and the flavour was high. Eclipse, it was remarked, is of all the varieties used for forcing that which possesses, perhaps, the richest Pine flavour, but that this is not so good when the plants are grown out of doors.

The Rev. M. J. Berkeley then offered some remarks on the subjects exhibited. The *Eriogonum* shown at the previous meeting by Mr. Thompson, of Ipswich, was first alluded to, and then the hardy trailing *Nierembergia*, exhibited by Messrs. Veitch. This was stated to have come from Tucuman, and its soft, lilac flowers were said to bear considerable resemblance to those of *N. filiculis*. *Acalypha tricolor*, imported from the New Hebrides by the same firm, next came under notice, and though very unlike most *Euphorbiaceae* plants, it nevertheless belonged to the same natural order as these. *Davallia alpina* and *parvula*, as well as *Lomaria ciliata*, were then adverted to, and the latter, however unlike a Tree Fern as exhibited, was stated to be in reality such. *Stenochlisma tenuifolia*, from the Society's garden, was the next plant noticed, and it was mentioned that the pinnae have

a marginal gland, or nerve, near the base on the upper edge, and that the veins form narrow costal areoles, from which parallel forked veins run out to the margin. Concerning *Æsculus indica* and *Æsculus californica*, both handsome Chestnuts, which come into bloom after all others are over, notes were read from the "Botanical Magazine," vols. lxxxiv. and lxxxv., in which both are figured. They form, it was stated, hardly moderate-sized trees of considerable beauty; but *Æsculus indica* was said to be somewhat difficult to cultivate. Mr. Berkeley then made some remarks on a disease in some Grapes that had been submitted to his inspection. In these the stalks were more or less withered, and the berries shrivelled like raisins, but without retaining their sweetness. They exhibited spots of decay, and with respect to these there was this peculiarity, that they had occurred at three different times, and that there was always a clearly-defined line between the healthy and decomposed portions of the berry. The first spots of decay had dried up, others had formed, and these had been succeeded by a third set. This peculiar disease, as well as some others, is attributed by Mr. Berkeley to a low state of vitality. As an instance of disease proceeding from a contrary condition of the plant, the gummy exudations frequently seen on the bunches were mentioned, and Dr. Hogg had drawn his attention to the fact that superabundant matter is frequently thrown off by the stigma, where it forms a globule, and the pollen being thus prevented from acting on the stigma, the fruit fails to set—a common cause of complaint with some varieties.

Mr. Bateman said that before he made any observations on the works of Nature he would direct attention to those of art, as exemplified by specimens of the application of a process by which leaves, Ferns, Sea-weeds, &c., may be impressed on porcelain, a clever invention, which we owe to Mr. Cox, of the Royal Polytechnic Institution, Regent Street. By Mr. Cox's "Ceramic Petalocoust Process" as it is called, the characteristic outlines and venation of Ferns, leaves, feathers, Sea-weeds, and other natural objects are reproduced and indelibly burnt in upon the surface of every description of china, &c., at, it is said, much less cost than by mere pictorial agency. By this process, Mr. Bateman remarked, the inventor had done on imperishable porcelain what Mr. Henry Bradbury had some years ago effected on perishable paper in that grand work produced by Messrs. Bradbury & Evans—"Nature-printed Ferns." Here, then, we might have a fund of enjoyment, for ladies might have their Fern sets or their Seaweed sets, just as they now have their Fuchsia sets and their Rose sets. A coloured plate of the beautiful *Camoensia*, discovered by Dr. Welwitsch in Africa, was next exhibited, and as it belongs to an order of plants whose seeds are easily imported, a hope was expressed that it might not be long before it was introduced into this country. Attention was then directed to a cone of *Gunnera scabra*, perhaps the largest hardy herbaceous plant in our gardens. It was perfectly hardy in the miserable climate of North Staffordshire, and on account of the size and beauty of the leaves it was well worthy of cultivation by those fond of fine-foliaged plants. That it was not so extensively grown as it deserved, might be partly attributable to its being slow of increase. Those who were curious to see it would find a plant of it in the herbaceous garden at Kew. Blooms of the Tulip tree, together with others of a fine variety of it, called *Liriodendron tulipiferum obtusilobum*, at present in great beauty in the Society's garden at Chiswick, then came under notice. A fine avenue of Tulip trees at Dresden having been mentioned, it was remarked that in its power of enduring the smoky atmosphere of towns, the tree would probably be found to be a rival to the Plane.

Orchids were the next subject to which Mr. Bateman directed attention. Among those from his own garden was *Promenaea citrina*, one pseudo-bulb of which had produced two flowers of different colours, one being bright yellow, the other pure white. He had never seen a similar case among Orchids; but he recollected Mr. Clowes once showing him a *Miltonia*, from opposite sides of a pseudo-bulb of which issued flowers of different sizes. It was, indeed, difficult to say where the pranks of this curious race of plants might end. Cut specimens were shown by W. W. Buller, Esq., and it was stated that at the next meeting that gentleman would probably have something to say in reference to the cultivation of Orchids and double-glazing. Among cut flowers of Orchids from Mr. Anderson, gardener to T. Dawson, Esq., Meadow Bank, Glasgow, was a beautiful variety of *Dendrobium* in the way of *densiflorum*, bicolor, or *Griffithii*. With respect to Cattleyas, Mr. Anderson asked where *C. Mossii* ended and *C. labiata* began. That question had been answered a year or two ago. *C. quadricolor*, *Wagneri*, and *Warneri*, were all well-marked varieties of the one species, which went all through the Isthmus of Panama, till in the form of *C. labiata* it ended in Brazil. *Pescatorea cerina*, shown by Messrs. Veitch, next occupied attention, and it was stated that though a woodcut of it had been published some years ago by Dr. Lindley, no coloured plate of it had as yet appeared, but that one would shortly be given in the "Botanical Magazine." The plant had been named in compliment to M. Pescatore, one of the most enthusiastic lovers of Orchids which the French empire ever produced, and rivalled only by Consul Schiller among the Germans. In connection with *Angraecum caudatum*, a cut specimen of which was shown to the meeting, Mr. Bateman remarked that about this time last year he had the honour of naming an *Angraecum* after Capt. Grant, one of the discoverers of the source of the Nile; and he now had to direct attention to another, named after the distinguished traveller M. du Chaillu, in commemoration of his discoveries in West Africa, in the country of the hideous

gorilla. This species, which is figured in the "Botanical Magazine" of the present month, was said to rival the *A. caudatum* of Sierra Leone. After the last meeting, Professor Owen, said Mr. Bateman, had shown him a *Cyrtanthus* bearing umbels of glowing crimson scarlet flowers, and a plant of it now exhibited still gave indications of considerable beauty. This was said to have been sent to Professor Owen by Mr. Bain, the discoverer of the strange *Dicynodonts*, or two-fanged reptiles of South Africa, (fossils of the Trias period), and was stated to have been found in the Karroos, or ravines of a mountain range about 800 miles north of Cape Town, and at an elevation of 1000 feet above the sea. In summer it succeeds out of doors in this country, but in winter it requires the protection of a greenhouse. The plant shown was presented to the Society, and Mr. Bateman moved that a vote of thanks be given to Professor Owen.

Mr. Bateman next offered some remarks on *Sirex juvenens*, which has been comparatively unnoticed for many years, though its attacks are much more frequent than generally supposed, and a piece of a dead Larch was furnished by G. C. Antrobus, Esq., of Eaton Hall, Cheshire, as an example of the way in which this insect perforates timber. All races of trees, said Mr. Bateman, have their peculiar insect pests, thus Larches, Pines, and Silver Firs are each attacked by different enemies. All know how destructive *Scolytus destructor* is to Elms, and that about this time of the year the *Hylurgus piniperda* bores up the centre of the young shoots of Pine trees, causing them to snap off with the first gale of wind. These pests confine their depredations to live trees: but *Sirex juvenens* is even more to be dreaded. Curtis several years ago stated that the *Sirices* appear to be most destructive to dead trees and timber, which is not surprising when it is stated that the eggs are deposited by hundreds, and that the maggots when full grown are about 1½ inch in length. *S. juvenens* made its appearance during July, August, and September in Fir groves in Norfolk, Suffolk, Hants, and Yorkshire, and specimens of it were shown to Mr. Curtis by the Hon. Charles Harris, who detected it in Fir plantations at Heron Court, the seat of Lord Malmesbury. "With us," said Mr. Harris, "at the age of twenty the Fir trees die to a great extent. The summer of 1825 and 1826 was peculiarly destructive to them, from its intense heat and drought, and I am certain that I never saw any trace of a *Sirex* except on dead trees. The smell of the turpentine would fully account for this, and the only spot where we could detect the *Sirex* in a standing plantation of shorter trees was on some dead stumps that had evidently been overgrown." From this it appears that the mischief arises from allowing dead trees to remain standing or lying about; and timber ought to be well examined before it is employed in building, "for," said Mr. Curtis, "I understand that considerable numbers of the males have been taken flying about the tower of York Minster, no doubt seeking the females which were issuing from the timbers that supported the roof, and which would be of course greatly weakened by the continued operations of the larvae, as well as rendered more combustible by the multitude of passages and the quantity of dust which they create." Singularly enough, said Mr. Bateman, Mr. Curtis's prediction as to fire was soon verified; for in 1829, very shortly after the above was written, York Minster was the scene of a conflagration. Mr. Bateman added that he had only become acquainted with *Sirex juvenens* about this time last year, and it was marvellous, he said, that after eluding exposure for nearly a quarter of a century its evil deeds should now be proclaimed. It was also stated on the authority of Mr. A. Murray that the insect had made its appearance with Mr. Thomson, of Banchoory House, Aberdeenshire. Mr. Buller said he had known this *Sirex* for years in Devonshire, where it appeared to confine its operations to wood either wholly dead or decaying. Palings and Larch posts were attacked by it, but he had not seen it on live trees. Mr. Bateman here remarked that it seemed only to make its appearance after very hot summers, but when detected every possible means should be used to extirpate it.

WEEKLY SHOW, July 7th.—At this Meeting there was a good exhibition of vegetables, and some excellent trays of Carnations and Picotees. In the class for twelve Carnations, Mr. Hooper, of Vine Nursery, Bath, took the first prize, and Mr. Shackell, of Oldfield Nursery, Bath, the second; they were beautiful blooms, as were also the twelve Picotees exhibited by the same gentlemen, by whom the prizes were taken in the same order. For the best basket of miscellaneous cut flowers, Mr. McIndoe, gardener to Coles Child, Esq., of Bromley, took the first prize, and Mr. Bartlett, of Hammersmith, the second. In the collection of vegetables, Mr. McIndoe was again first, Mr. Young, gardener to R. Barclay, Esq., of Highgate, second, and Mr. Plester, of Elsenham Hall Gardens, Essex, was third. In the miscellaneous class, Mr. Butcher, gardener to A. Bond, Esq., took a first-class certificate for a very fine specimen of Fulham Cabbage, and Mr. Young was similarly rewarded for a large specimen of the Enfield Market, which is a mere form of the former. Two meritorious designs of flower gardens were shown by Mr. Brown, of Southwood Lane, Highgate, and Mr. Hill, Angel Row, Highgate. The former took his plan from that of the International Exhibition, and both received extra prizes. Mr. Ward, gardener to F. N. Miller, Esq., Bishop Stortford, received a second prize for three handsome Pines; and Mr. Young, gardener to R. Barclay, Esq., extra prizes for a collection of *Caladiums*, and one of *Agaves*; also a first-class certificate for *Leptopteris superba*, and one of the second class for *Erica Parmentieriana rosea*.

ROYAL BOTANIC SOCIETY'S SHOW.

JULY 4TH.

THE last Show of the season took place on Wednesday last, and though the weather was by no means favourable, there was a large attendance of visitors, among whom the fairer sex as usual greatly predominated. Their pleasure, however, in promenading the lawn was greatly marred by the frequent cold showers which made the turf damp, and the day throughout was very ungenial for that period of the year which is usually the warmest. The plants did not appear to be so numerous as at the earlier exhibitions, nor did they on the whole exhibit that freshness and profusion of bloom which rendered them so attractive in May; but fruit was shown in great abundance, variety, and excellence, constituting, in fact, the most important feature of the Show.

STOVE AND GREENHOUSE PLANTS.—Of these Mr. Peed, gardener to Mrs. Tredwell, Lower Norwood, exhibited a fine collection of ten, prominent among which was a magnificent specimen of *Ixora salicifolia*, a worked plant about 5½ feet high, and bearing in great profusion heads of orange flowers from 7 to 8 inches in diameter. This was certainly the finest plant of its kind that we remember; and although some two or three years ago, Mr. Whitbread exhibited a remarkable specimen, we question whether it was equal to that shown by Mr. Peed. *Allamanda grandiflora* and *Dracophyllum gracile* from the same exhibitor were also fine, and *Rondeletia speciosa* was likewise noticeable in his collection. In that of Mr. Rhodes, *Azalea Apollo* was still in very good bloom, and he had besides by far the finest *Kalosanthes* in the Show, a round-headed plant of coccinea, about a yard across, and presenting a glowing mass of rich scarlet. *Phenocoma prolifera*, a large plant, with its rosy crimson everlasting flowers quite as large as a five-shilling piece; a very good *Ixora coccinea*, and large plants of *Hedera fuchsoides*, and *Pimelea mirabilis*, also came from Mr. Rhodes; and from Mr. Williams, a very fine specimen of *Phenocoma prolifera*, 6 feet across and in profuse bloom, together with *Bougainvillea glabra*, *Allamanda grandiflora*, and *Erythrina crista-galli*, whose showy red flowers are not usually seen at exhibitions. Mrs. Glendinning & Sons sent *Allamanda Aubletii* in very good bloom, but not so showy as *A. grandiflora*; and inferior plants of it also appeared in other collections; also, a fine specimen of *Vinca oculata*; Mr. Baxendine, Guildford, had *Rhynchospermum jasminoides* and *Bignonia grandiflora*, assorting well with an *Allamanda* near it, though differing in being reddish orange instead of yellow. Mr. Kaile, gardener to Earl Lovelace, had a very good plant of *Rhynchospermum jasminoides*; and Mr. A. Ingram, gardener to J. J. Blandy, Esq., Reading, the beautiful purplish violet *Pteroma elegans*, in fine bloom; *Kalosanthes coccinea superba*; *Clerodendron Thomsonei*, full of flower; and *Statisia profusa*. Mr. Ward, gardener to F. G. Wilkins, Esq., Leyton, took, however, the lead in the Amateurs' class for six, with, among others, *Allamanda grandiflora*, small but in excellent bloom; *Statisia macrophylla*, with a profusion of its purplish lilac flowers in dense corymbs; *Stephanotis floribunda*, and *Phenocoma prolifera* Barnesii. Mr. Kemp had the showy scarlet *Clerodendron Kämpferi*; and Mr. Wilkie, gardener to I. McHenry, Esq., a very good specimen of *Dracophyllum gracile*.

Awards.—For ten: first, Mr. Peed; second, Mr. J. Wheeler, gardener to J. Philpott, Esq. For eight (Nurserymen): first, Mr. Rhodes; second, Mr. Williams; third, Mr. Baxendine; fourth, Mrs. Glendinning & Sons. For eight (Amateurs): first, Mr. Kaile; second, Mr. G. Wheeler, gardener to Sir F. Goldsmid, Bart. For six: first, Mr. Ward; second, Mr. A. Ingram; third, Mr. Wilkie; fourth, Mr. Kemp.

FINE-FOLIAGED PLANTS AND FERNS were rather numerous, and being judiciously placed in the bays between the flowering plants, these were not overpowered, nor overpowering as they sometimes are by too much colour being impressed on the eye. Mr. Williams, Holway, had, in a set of ten, fine specimens of *Cordylus indivisa*, *Cycas circinalis*, *Dracaena lineata*, *Chamaerops humilis*, *Cyathus dealbata*, and variegated Aloe-leaved *Yucca*, and in another collection *Alocasia Lowii* in splendid condition, *Dracaena marginata*, with the leaves narrowly edged with red, a fine *Lantana borbonica*, and *Zamia pumila*, very thick in the trunk. Mr. Burley, Albert Nursery, Bayswater, also sent various Palms and *Alpinia nutans*. Of Amateurs, Mr. Taylor, gardener to J. Yates, Esq., Highgate, had a very fine specimen of *Sabal Blackburniana*, *Zamia spiralis*, *Encephalartos latifrons*, and other Cycads, and a good plant of *Litsea juncea*. From Messrs. Barnard, Gell, Glendinning, and Young, came the Date Palm, *Rhopala*, *Sphaerogone latifolia*, *Alocasia macrorrhiza variegata*, *Dracaena*, *Maranta*, *Pandanus*, one or two *Caladiums*; *Panicum sulcatum*, a broad-leaved Grass; and *Anthurium cordifolium*.

Awards.—For ten (Nurserymen): first, Mr. Williams; second, Messrs. Glendinning; third, Mr. Burley. For ten (Amateurs): first, Mr. Taylor; second, Mr. Gell; third, Mr. Young. For six: first, Mr. Taylor; second, Mr. Barnard.

Exotic Ferns from Messrs. Taylor, Williams, Barnard, and Young, comprised good specimens of *Cyathea*, *Cibotium*, *Dicksonia*, *Woodwardia radicans*, *Todea africana*, *Pteris cretica albo-lineata* and *argyrea*, *Phlebodium aureum*, *Adiantum trapeziforme* and *formosum*.

Awards.—For twelve (Nurserymen): first, Mr. Williams. For twelve (Amateurs): first, Mr. Taylor; second, Mr. Barnard; third, Mr. Young.

Of British Ferns, the best twelve came from Messrs. Ivory & Son, of Dorking, and consisted of *Lastrea Filix-mas Ingramii*, *Athyrium Filix-femina Grantii*, the crested variety of the Royal Fern, *Polystichum aculeatum acrocladon*, and *angulare grandiceps*, *Trichomanes radicans*, *Asplenium trichomanes Moulei*, very pretty; *Scelopendrium vulgare crispum latum*, *Lastrea montana Nowelliana*, *Pseudathyrium flexile*, *Blechnum spicant crispum*, and *Adiantum capillus-Veneris*. Collections, including various forms of the above genera, also came from Mr. Kaile and Mr. Kemp, gardener to Earl Percy.

HEATHS comprised fine specimens of the brilliant *Parmentieriana rosea*, *Savilleana*, *ventricosa Bothwelliana* and *coccinea*, tricolor varieties; *Aitoniana*, *Eassoniana*, and *Turnbulli*, white; *obovata*, *Maassoni* major, *ampullacea major*, *eximia*, *nobilis*, orange; *depressa*, and *Cavendishii*, the last two, however, rather past their best.

Awards.—For eight (Nurserymen): first, Messrs. Jackson & Sons; second, Mr. Rhodes; third, Messrs. F. & A. Smith. For eight (Amateurs): first, Mr. Peed; second, Mr. Ward; equal third, Mr. A. Ingram and Mr. J. Wheeler, gardener to J. Philpott, Esq.

ORCHIDS were not numerous shown, nor were they in the same fine condition as at the first Show. Mr. Bullen, gardener to A. Turner, Esq., Leicester, had *Trichopilia crispata* with certainly not less than thirty fine blooms, a fine specimen of *Aërides odoratum majus*, *Saccolabium Blumei majus* with five spikes, *Cattleya Acklandiae* with three blooms, *C. superba*, very brilliant in colour; *Cypripedium Veitchii* with four fine blooms, and a good example of *C. barbatum superbum*; Mr. Wiggins had *Cattleya Wagneri*, *Cypripedium Hookeri* and *Stonei*, *Odontoglossum hastilabium*, *Aërides*, and a *Vanda*; and Mr. Williams sent, among others, a fine specimen of *Aërides odoratum majus*, also *Aërides Lobbi*, *Phalenopsis grandiflora*, and *Cypripedium barbatum superbum*. From other exhibitors came *Phalenopsis Luddemanniana*, *Cattleya Mossiae*, the old *Broughtonia sanguinea*, *Calanthe masuca*, *Lelia purpurata*, *Odontoglossum hastilabium* and *cordatum*, the pretty *Miltonia spectabilis*, and *Vanda Batemanni*.

Awards.—For ten: first, Mr. Bullen; second, withheld; third, Mr. Peed. For six: first, Mr. Williams; second, Mr. Parker; third, Mr. Rhodes. For six: first, Mr. Wiggins; second, G. Cooper, Esq.; Old Kent Road; third, Mr. Hill, gardener to R. Hanbury, Esq.; fourth, Mr. J. Wheeler; fifth, Mr. Willcock, gardener to Dr. Pattison, St. John's Wood.

FUCHSIAS.—Only three collections were shown, and of these the best came from Mr. Brockwell, Edmonton, whose plants were from 6 to 7 feet high and well-grown and flowered. Among dark varieties were good examples of Sir Colin Campbell, Lord of the Isles, and *Sensation*; among light sorts, *Wiltshire Lass*, *Minnie Banks*, *Reine Blanche*, and *Schiller*; and among kinds with white corollas, the best were *Madame Cornelissen* and *Conspicua*.

Awards.—For six: first, Mr. Brockwell; second, Mr. Weston, gardener to D. Martineau, Esq., Clapham Park; third, Mr. Fillee, gardener to J. Shutter, Esq.

PELARGONIUMS were inferior both in the size of the plants and bloom to those exhibited at the previous Show, when Mr. Bailey's and Mr. Turner's plants attracted such general admiration. Mr. Fraser, however, on this occasion had good plants of *Favourite*, *Pericles*, *Beacon*, *Mdlle. Patti*, *Desdemona*, *Caractacus*, *Leander*, and *Maiden Fair*. Mr. Nye, gardener to G. Foster, Esq., had fine specimens of *Fairest of the Fair*, *Perdita*, *Mdlle. Patti*, and *International*; also *Spotted Gem*, *Lord Clyde*, and *Pericles*; and Mr. Ward had *Caractacus*, *Lilacinum*, *Royal Albert*, *Desdemona*, and *Pericles*. In the class for six varieties Mr. Wiggins, gardener to W. Beck, Esq., had good plants of *John Hoyle*, *Eurydice*, *Diana*, *Album formosum*, *Exhibition*, and *Isabel*. Of *Fancy* varieties, Mr. Fraser had good examples of *Zoe*, *Undine*, *Bridesmaid*, *Helen*, *Hebe*, and *Acme*. Of *Scarlets*, the best came from Mr. Windsor, Walthamstow, who contributed *Sir Robert Peel* and *Prime Minister*, scarlet; *Virgo Marie*, white; *Princess and Eugénie Mézard*, salmon; and *Highgate Rival*, salmon scarlet, all well grown.

Awards.—For nine: first, Mr. Fraser. For nine (Amateurs): first, Mr. Nye; second, Mr. Ward; third, Mr. Wiggins. For six *Fancy*: first, Mr. Fraser. For six *Scarlet*: first, Mr. Windsor; second, Mr. Catlin; third, Mr. Hawes; fourth, Mr. Logan. For varieties of 1863-4: first, Mr. Fraser; second, Mr. Wiggins.

ROSES.—Messrs. Paul & Son exhibited some very good plants in pots, among which *Duc de Rohan*, *Comte de Nanteuil*, *Duchesse de Caylus*, *Leopold I.*, *Comtesse de Chabillant*, and *Madame Victor Verdier*, were particularly fine; and of cut blooms, fine stands were shown by Messrs. Paul & Son, Ingle, Chard, J. Hollingworth, Turner, and Marlow, containing in addition to the above-named varieties fine examples of *William Griffiths*, *Gloire de Santenay*, *Senateur Vaisse*, *Gloire de Dijon*, *Maurice Bernardin*, *Madame Bravy*, *Souvenir de Malmaison*, and others.

Awards.—For fifty: first, Mr. Turner; second, Messrs. Paul & Son; third, Mr. Fraser. For twenty-five: first, Mr. Ingle; second, Mr. Chard; third, Mr. Hollingworth. For twenty-four: first, Mr. Turner; second, Mr. Ingle; third, Mr. Marlow.

NEW PLANTS AND SEEDLINGS were numerous shown. Messrs. Veitch had first-class certificates for the true *Peperomia arifolia*. *Davallia parvula* very pretty, *Drosera capensis*, *Nepenthes lanata*, *Maranta Lindenii*, *Lomaria Belli*, *recurva*, and *ciliata*; *Davallia alpina*; a species of *Adiantum* with copper-coloured young fronds; a

pretty little *Nierembergia*, and *Acalypha tricolor*. To the same firm second-class certificates were awarded for a Bornean *Nepenthes*, and a handsome *Spharogyne* from Bolivia. Several of these are noticed in another column. Messrs. Veitch also exhibited *Retinospora obtusa aurea*, having foliage beautifully tinged with gold, *Begonia Pearcei*, and *Alternanthera spatulata*. From Mr. Bull came also a numerous collection, of which the following plants received first-class certificates—viz., *Maranta Lindenii*, *Pandanus latissimus*, with rather broad pale green leaves; *P. Porteusii*, much more slender than the preceding, *Rogiera gratissima*, with small pale rose-coloured flowers slightly scented; *Latania rubra*, *Adiantum velutinum*, *Peperomia argyrea*, and *Athyrium Goringianum pictum*, variegated with white after the manner of *Pteris argyrea*, but much more slightly marked. The same exhibitor had second-class certificates for *Cinchona nobilis*, with handsome leaves having a red midrib; a variegated *Phajus grandifolius*, *Philodendron bipinnatifidum*, and *Echeveria atropurpurea*, with brownish red leaves. First-class certificates were also awarded to Messrs. Waterer & Godfrey for *Cupressus Lawsoniana argentea*, a glaucous variety of that fine species; to Mr. R. Parker for *Goodyera pubescens intermedia*, and *Statice floribunda* with purplish violet flowers; and to Messrs. Backhouse, York, for *Dipladenia amabilis*, noticed in our Floral Committee report. Similar awards were made to Messrs. Ivery & Son for *Athyrium Filix-femina pulcherrimum*, to Messrs. Jackson for *Peperomia arifolia*, to Mr. Williams, Holloway, for *Lomaria rigida* and an *Adiantum*, and to Messrs. E. G. Henderson for *Caledium Napoleon III*. Second-class certificates were given to Mr. Fraser, Lea Bridge, for *Lilium auratum candidum*, of a purer white than the common variety, and not spotted; to Messrs. Ivery for a *Polystichum*; and to Mr. Williams for *Lindaea cultrata*. Among seedling florists' flowers Mr. Watson had first-class certificates for *Geraniums* Miss Watson and Mrs. Dix, both of which have been already noticed, and a similar award was made to Mr. G. Smith, Hornsey Road, for *Nosegay Pelargonium La Grande*, a fine scarlet; also to Mr. Tirebuck, Linton, for *Emily Morland*, a scarlet zonal. Messrs. F. & A. Smith, who exhibited numerous zonal and tricolor-leaved varieties, received certificates of the first-class for *Sunbeam*, bright scarlet, large trusses; *Diadem* and *Charmar*, orange scarlet; and *Glorious*, deep scarlet; also certificates of the second class for *Vandyke*, Mrs. Charles Barry, Conqueror, Magnificent, and *Scarlet Dwarf*. Mr. W. Paul again exhibited several varieties of the zonal and *Nosegay* sections, and had certificates of the first-class for *Nimrod*, *Waltham Gem*, *Rebecca*, *St. George*, and *Sir Joseph Paxton*; and of the second class for *Scarlet Dwarf* and *Cardinal*. Mr. Turner had a first-class certificate for *International* and *Lady Constance Grosvenor*, the former a crimson scarlet zonal variety, and the latter a fine scarlet. *Verbenas Auricula* and *Harry Law* exhibited by Mr. Perry, of Castle Bromwich, likewise received first-class certificates, and Messrs. Downie & Co.'s fine bedding *Pansy Imperial Blue*, a second-class one. Several showy *Clematises* were shown by Mr. Townsend, Hornsey; and a pretty white *Lobelia*, called *Miss Murphy*, likely to be useful for bedding, shown by Messrs. Dobson & Son, received a first-class certificate.

MISCELLANEOUS.—Mr. Parker, Tooting, exhibited *Yucca canaliculata* producing its creamy inflorescence, *Acanthus montanus* with rather ornamental foliage, *Spharogyne cinnamomea*, and a showy *Amayyllis* called *marginata* conspicua. Mrs. Glendinning & Sons had *Gesneras* and *Anectochills*; and good stands of *Pinks*, *Carnations*, and *Picotees*, came from Mr. Turner, Slough, Mr. Hooper, Bath, and others. Annuals were also shown by Messrs. Hooper & Co., of Covent Garden.

FRUIT.

The display of fruit, as already stated, was large in quantity and excellent in quality. Nearly one hundred Pines were shown, and upwards of two hundred bunches of Grapes, most of these, too, being large and very well grown. The first prize for a collection was awarded to Mr. Rawbone, gardener to C. Campbell, Esq., Ashbourne, for a Queen Pine of 4½ lbs., three excellent bunches of Black Hamburgh Grapes weighing in all 7½ lbs., Golden Hamburghs, Trentham Hybrid Melon, fine Royal George Peaches, Elruge Nectarines, and Keens' Seedling Strawberries. Mr. Robinson, gardener to R. Benyon, Esq., M.P., Reading, was second with a Queen Pine, Black and Golden Hamburgh Grapes, Golden Perfection Melon, Groses Mignonne Peaches, Elruge Nectarines, Figs, Strawberries, and Cherries. Mr. Turner was third with a Queen Pine, Buckland Sweetwater and Black Hamburgh Grapes, a Melon, Violette Hative Peaches, Elruge Nectarines, and Dr. Hogg Strawberry; and Mr. Miller, gardener to Earl Cravan, Combe Abbey, was fourth with six fine Ripley Queen Pines, Muscat and Black Hamburgh Grapes, Melons, Peaches, Nectarines, and Strawberries. Mr. Turnbull, gardener to the Duke of Marlborough, was fifth; and Mr. Sage, gardener to Earl Brownlow, Ashridge, sixth.

PINE APPLES.—In collections of four fruit, not less than two kinds, Mr. Hannan, gardener to R. T. Crawshaw, Esq., Cyfarthfa Castle, was first with two fine Providence, weighing respectively 8 and 9 lbs., and two good fruit of the Black Jamaica. Mr. Young, gardener to Crawshaw Bailey, Esq., Aberaman, was third with Providence weighing 7 lbs. 2 ozs., and 7 lbs. 6 ozs. each, and well-ripened Queens of 4 lbs. 2 ozs., and 4 lbs. 6 ozs.; and equal third prizes were awarded to Mr. Miles, gardener to Lord Carrington, and Mr. Young, gardener to W. H. Stone, Esq., M.P., Leigh Park, the former having Smooth-leaved Cayennes weighing a little more than 5 lbs., a Prickly Cayenne

of 4 lbs. 6 ozs., and an *Exville* of 4½ lbs.; whilst Mr. Young had two excellent Queens, a Providence, and a Black Jamaica.

Of Providence Pines several large and handsome fruit were shown. Mr. Hannan was first with a noble fruit of 10 lbs., and Mr. Young, Aberaman, second, with one which, though not so heavy by 1½ lb., was more handsome. Mr. Elstone, gardener to S. Lawrence, Esq., Clapham Park, was third with one of 8½ lbs.; and extra prizes were awarded to Mr. Bailey, gardener to T. T. Drake, Esq., Shardeloes, for a fruit weighing 8½ lbs.; to Mr. Deville, gardener to Major Martin, for one of 8 lbs.; to Mr. Gell, gardener to Mrs. Beaufoy, South Lambeth; to Mr. Jones, gardener to Lady Mill; and to Mr. Speed, gardener to Sir E. Walker, Bart., Bury Hill, Mansfield.

Among Queens by far the best was a well-ripened fruit of the extraordinary weight of 7 lbs. 6 ozs., shown by Mr. Ward, gardener to F. N. Miller, Esq., Bishop Stortford, and to which, of course, the first prize was awarded. Mr. Brice, gardener to J. Lermite, Esq., of Finchley, was second with a finely ripened fruit weighing 5 lbs. 4 ozs.; and Mr. Young, Aberaman, third, with a fine fruit of 5 lbs. Mr. Perkins, Stanmore; Mr. Holliday, gardener to H. Walmaley, Esq., Acton; Mr. Kemp; Mr. Hannan; and Mr. Coles, gardener to B. H. Page, Esq., Beckenham; and Mr. Drewitt, had also very good fruit of this variety, which in several cases was shown of a heavier weight than it has usually been seen of late years, when first prizes have frequently been taken by fruits under 4 lbs. in weight. Special mention must also be made of a dozen Queens weighing 68 lbs., exhibited by Mr. Ward, all of which were handsome fruit and in beautiful condition.

In the class for any variety no first prize was awarded; the second was given to Mr. B. Smith, gardener to H. Walker, Esq., Calderstone, for a well-ripened Black Jamaica; and the third to Mr. Gardiner, gardener to E. P. Shirley, Esq., Eastington Park, Stratford-on-Avon, for a fruit of the same variety weighing 8½ lbs. Mr. Kemp, gardener to E. Benthall, Esq., had a Black Antigua, for which an extra prize was awarded.

GRAPES made a splendid display, especially the Black Hamburghs. In the class for three kinds Mr. Meredith had a wonderfully fine exhibition, consisting of Black Hamburghs, remarkable both for size of bunch and berry, their fine colour, and their beautiful bloom; Black Prince, and Trentham Black also very fine. Mr. Meredith here walked over the course, all the other competitors being a long way behind. No second prize was awarded, but equal third prizes were given to Mr. Osborn, Finchley, for well-ripened Buckland Sweetwater, good Muscats but not ripe, and Black Hamburgh; to Mr. Horwood, gardener to G. H. Turnbull, Esq., Rookery Down, Kent, for Black Prince, small Muscats, and Black Hamburghs; to Mr. Tansey, gardener to A. Moss, Esq., Chadwell Heath, for Muscat of Alexandria, Black Hamburghs, and Canon Hall; and to Mr. Sage, gardener to Earl Howe, Atherstone, for good bunches of Black Hamburgh, Black Prince, and Buckland Sweetwater. In the same class Mr. M. Henderson, gardener to Sir G. Beaumont, Bart., Coleorton Hall, exhibited very good Black Hamburgh and White Muscadine, and Mr. Turnbull, Blenheim, large bunches of Black Prince, but not sufficiently ripe.

In the class for three bunches of Black Hamburghs, Mr. Meredith and Mr. Clement, East Barnet, were placed equal first with large and beautifully coloured bunches, and in each case densely covered with a beautiful bloom. Those from Mr. Meredith weighed collectively 10½ lbs., and were very even in size of berry. Mr. Squires, gardener to H. Ludlow, Esq., Heywood House, Westbury, was second with good large-berried bunches but a little deficient in colour; Mr. Osborn, and Mr. Pople, West Moulsey, were equal third; and Mr. Speed, Bury Hill, fourth, with small but well-coloured bunches. Good exhibitions in the same class also came from Mr. Wallis, gardener to J. Dixon, Esq., Astle Park, Mr. Rawbone, and Mr. M. Henderson.

In baskets Mr. Meredith was again first with Black Hamburgh large and finely coloured, Mr. Tansey being second with very good Canon Hall; and Mr. M. Henderson, Mr. Hannan, Mr. Pople, and Mr. Osborn, had equal third prizes, all for Black Hamburgh, except Mr. Osborn, who had Muscats.

In the class for Black Prince, or West's St. Peter's, the former variety was almost exclusively shown. With it Mr. Turnbull, gardener to the Duke of Marlborough, was first with large bunches, but not so finely coloured as we have seen; Mr. Sage, gardener to Earl Howe, was second with good bunches of the same kind; and others came from Mr. Allen, gardener to E. Hopwood, Esq., Manchester, and Mr. Goldsmith, gardener to Sir W. Farquhar, Bart., one of those from the former being 16 inches in length, but it, as well as the two smaller bunches on each side of it, were deficient in colour. Mr. Allport, gardener to H. Aykroyd, Esq., had compact bunches of West's St. Peter's beautifully coloured.

Muscats from Mr. Turner, of Slough, were beautifully ripened, being of a rich golden-amber colour, in respect to ripeness far before all the other bunches. The second prize went to Mr. Pizzie, gardener to F. Edwards, Esq., Pickaridge; and the third to Mr. Clement, for very good bunches, but not quite ripe.

In the class for any kind, Mr. Record, gardener to Colonel Loyd, Hawthurst, Kent, was first with Marchioness of Hastings, the three bunches weighing collectively 8 lbs. 3 ozs.; and Mr. Lynn, gardener to Lord Boston, Hedsor, second, with fine bunches of Buckland Sweetwater, but not sufficiently ripe. Good White Muscadines, from Mr. M. Henderson, were third. The only other kinds which we noticed

were Red Frontignan and Golden Hamburgh. In the Miscellaneous Class a prize was also awarded to Mr. Meredith, for a bunch, or rather series of bunches on a single stalk, weighing 7½ lbs., and, notwithstanding its large size, perfection in colour and bloom.

MELONS were shown to the number of about two score. In the Green-fleshed class, the best were a Hybrid Cashmere, from Mr. Weir, gardener to Mrs. Hodgson, Hampstead; and Combe Abbey Hybrid, from Mr. Miller, gardener to Lord Craven. Golden Perfection and Conqueror of Europe, respectively from Mr. Ross, gardener to Col. Kyre, Welford Park; and Mr. Record, gardener to Col. Loyd, were placed equal second. In the Scarlet-fleshed class, Mr. Weir was again first with Improved Windsor Prize; and Scarlet Gem from Mr. Beech, gardener to T. Allcock, Esq., Epsom, and Mr. Goldsmith, was second.

PEACHES AND NECTARINES.—Of Royal Charlotte and Violette Hâtive Peaches, remarkably fine fruit were shown by Mr. Sawkins, gardener to A. Smith, Esq., Bramfield; and Royal George and finely-coloured Galande Peaches came from Mr. Horwood. Mr. Miller, gardener to Earl Craven, had fine Violette Hâtive Peaches and Nectarines; and Brugnon and Scarlet Nectarines from Mr. Allen, gardener to Capt. Glegg, Withington Hall, were also good; so too were the Grosse Mignonne and Royal George Peaches from Mr. Beech. Royal George Peaches and Elruge Nectarines were also shown in good perfection by Mr. Masters, gardener to the Earl of Macclesfield, and by Mr. Sage, gardener to Earl Brownlow. In the class for four dishes, Mr. Allen, gardener to Capt. Glegg, Withington Hall, had Ballegarde, and Noblesse Peaches, and Scarlet and Brugnon Nectarines, the whole of which were fine. Mr. Masters had good fruit of Royal George and Early Grosse Mignonne Peaches, and Elruge and Violette Hâtive Nectarines; whilst Mr. Young, gardener to W. H. Stone, Esq., Messrs. Jackson, of Kingston, and Mr. Turnbull had also good exhibitions.

Awards.—For four dishes: first, Mr. Allen; second, Mr. Masters; third, Mr. Young; equal fourth, Mr. Turnbull and Messrs. Jackson. For two dishes: first, Mr. Sawkins; equal second, Mr. Miller and Mr. Horwood; equal third, Mr. Allen and Mr. Beech; fourth, Mr. Masters.

STRAWBERRIES.—Mr. Widdowson, gardener to J. H. Barnes, Esq., Rickmansworth, furnished the best four dishes—viz., Empress Eugénie, Sir Charles Napier, President, and Oscar, all large and fine. Mr. Turner, Slough, had Dr. Hogg, Léon de St. Lannier (a large cockscomb-shaped fruit), Sir C. Napier, and Sir Joseph Paxton; and Mr. McKendoe, gardener to Coles Child, Esq., Bromley, exhibited Comte de Paris, Marguerite, Empress Eugénie, and President. Mr. Lydiard, Bathaston, sent British Queen, Sir C. Napier, Sir J. Paxton, and Comte de Paris. From Mr. Horwood, Cudham, came two fine basketsful of Kitley's Goliath; and Mr. Bailey, Shardelose, had a seedling named Princess Mary, said to be very prolific, and to possess a well-marked Pine flavour.

Awards.—First, Mr. Widdowson; second, Mr. Turner; third, Mr. McKendoe; fourth, Mr. Lydiard.

MISCELLANEOUS.—Although classes were assigned to several other fruits, the exhibitions in these were so few that they will be most conveniently noticed under this head. For Plums, Mr. McKendoe, gardener to Coles Child, Esq., Bromley, was first with a kind of Gage called De Galopin, and Mr. Ingram, gardener to J. J. Blandy, Esq., second with Victoria. Of Figs, fine fruit of the Brown Turkey from Mr. Miles, gardener to Lord Carrington, were first; the same kind from Mr. Robinson, gardener to R. Benyon, Esq., second; and what was called Bourjasotte blanche, from Mr. Blake, gardener to E. Green, Esq., Ware, third. In Black Cherries, Mr. Turner was first with Black Tartarian, large and beautifully ripened; Mr. Hill, gardener to R. Hanbury, Esq., The Poles, second with fine fruit of the same variety. Of White Cherries, the best were Bigarreau from Mr. Widdowson and Mr. Turner, who were first and second, and Elton from Mr. Hill, who took an equal second prize. Mr. Turner also exhibited fine fruit of Black Eagle, Werder's and Knight's Early Black, Black Tartarian, May Duke, Bigarreau, and Elton. From Mr. Henderson, Colerston Hall, came a box of very good Elruge and Violette Hâtive Nectarines; and from Mr. Osborn, Finchley, Grosse Mignonne Peaches. French Crab Apples were shown in excellent preservation by Mr. Ross, Welford Park; Raspberries by Mr. Marcham, Drayton House, Ealing; and Apples, Pears, Peaches, and other orchard-house trees in pots by Mr. Fraser, Lea Bridge.

THE REGATE ROSE ASSOCIATION'S SHOW was held in the Public Hall, Beigate, on June 30th. The centre of the Hall was occupied by two parallel tables containing the stands of the members for competition, the sides by similar tables on which were placed many beautiful plants to be presently noticed with the boxes of Roses brought by nurserymen, not for competition, but kindly lent by them to assist in rendering the Show effective. They came from Messrs. Paul & Son, Cheshunt; Mr. Mitchell, of Piltown; Messrs. Ivery and Son, Dorking; and Mr. John Cattell, Westerham. The table along the end of the Hall was covered with bouquets, arranged chiefly with Fern and other foliage, and suitable for dinner-table decoration. These bouquets were exhibited by Mrs. Wilson Saunders and the ladies of Beigate, Redhill, and the immediate neighbourhood, and for taste and elegance fully merited the praise liberally bestowed upon them. A Rose was shown which may, or may not, according as future experiments shall prove, exercise some influence in Rose culture. It is a Briar Rose from the Himalaya Mountains, exhibited by Mr. W. W. Saunders, the founder of the Association. A branch of it, about

4 feet in length, was one mass of white bloom, in bunches (corymbs), of eight or ten together. It is quite new to this country, of beautiful foliage and flowers, and of itself worthy of cultivation. It is also perfectly hardy and of vigorous growth, hence the probability of its being suitable for stocks. At six o'clock in the evening the Show was opened free to the working men of the town and their families, who availed themselves of the privilege in great numbers. The lively interest shown by them during their inspection, proved that this re-regulation of the Committee was duly appreciated by them. The cut flowers were afterwards distributed among those present.—A. H. K.

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

MECONOPSIS NEPALENSIS (Nepalese Meconopsis).—*Nat. ord.*, Papaveraceae. *Linn.*, Polyandria Monogynia. Native of Nepal and Sikkim Himalaya, at elevations of 10-11,000 feet. Flowers yellow, "stately, and beautiful." Introduced by Messrs. Backhouse, of York.—(*Bot. Mag.*, t. 5585.)

POLYSTACHYA PUBESCENS (Hairy-stemmed Polystachya).—*Nat. ord.*, Orchidaceae. *Linn.*, Gynandria Monandria. Native of Southern Africa. Flowers yellow, striped with crimson.—(*Ibid.*, t. 5586.)

LOBELIA NICOTIANÆFOLIA (Tobacco-leaved Lobelia).—*Nat. ord.*, Lobeliaceae. *Linn.*, Pentandria Monogynia. Native of the mountains of peninsular India and Ceylon. Flowers white, tinted with blue.—(*Ibid.*, t. 5587.)

ANCYLOGYNE LONGIFLORA (Long-flowered Ancylogyne).—*Nat. ord.*, Acanthaceae. *Linn.*, Diandria Monogynia. Native of Guayaquil. Introduced by Messrs. Veitch & Sons. Flowers crimsoned-purple.—(*Ibid.*, t. 5588.)

ANGRÆCUM CHAILLUNUM (Du Chailu's Angræcum).—*Nat. ord.*, Orchidaceae. *Linn.*, Gynandria Monandria. Native of Western Africa, sent by the well-abused M. du Chailu, from the Gaboon. Flowers white, tinged with green.—(*Ibid.*, t. 5589.)

BOHEMIAN BLACK BIGARREAU.—This is "one of the largest and finest of our Black Heart class of Cherries. It is a variety that was introduced by Mr. Rivers, of Sawbridgeworth, under the name of Bigarreau Radowesnitser, a name the correct pronunciation of which must in no small degree prove a stumblingblock to English gardeners; and we have therefore rendered it into English by calling it Bohemian Black Bigarreau, in allusion to the country whence it is said to have its origin. Whether we regard this variety as to its size, flavour, or earliness, it is equally valuable. It ripens early in July, and is of the largest size, of a roundish heart-shape, very even and regular in its outline; skin shining, and jet black. The characteristically short stalk is very stout, and dark green. Flesh quite black, firm, but not so firm and crackling as Bigarreaux generally are, but juicy, richly flavoured, and delicious. We would recommend this to be grown in every collection."—(*Florist and Pomologist*, v., 137.)

GARDENERS' BENEVOLENT INSTITUTION.

WHEN at the dinner of this excellent Institution the other evening one or two thoughts crossed my mind. First, a fifteen-years annual payment of one guinea to entitle a subscriber to be placed on the pension list without the expenses of an election seems rather much; I would make this ten years. Then I would open a 10s. 6d. annual subscription for gardeners under thirty years of age, and rule a twenty-years subscription to entitle them to the same benefits. I believe this would produce a good revenue, and associate the young gardeners with the Institution, and secure their active influence and support. Let me, in support of this argument, bring into view the fact that the difference between an annual subscription of 10s. 6d. and 21s. is important to many young gardeners, whose remuneration, never high, is very low in early life.

Further, when I compare this with other benevolent institutions I think that, considering the numbers and influence of the gardening interest and its supporters, it does not receive all the support that might be expected. This does not, in my opinion, arise from any want of charitable feeling, but because its claims are not forcibly and often enough put before the public. Perhaps this has been left undone on the score of expense; but I believe that a judicious expenditure under this head would pay. Why not map out the country, and have a committee in every town ten miles distant, so that each committee might have a circle of ten miles diameter to work, canvassing every gardener and lover of gardening within it? This

would, of course, entail expenses of printing, posting, advertising, &c.; but to guard against injudicious expenditure of the Society's funds a good commission might be allowed on the subscriptions actually obtained. I believe men would be found willing to undertake this small risk, and would in no case withhold from the general fund more than was required to cover expenses.—WILLIAM PAUL, *Waltham Cross, N.*

PLANTING ORNAMENTAL TREES AND SHRUBS.

PLANTING is an operation too often very indifferently performed, and the trees so frequently "stuck in" plainly testify mismanagement by the tardiness of their after-growth. Digging a hole and putting a tree in it is one thing, planting a tree is quite another. Of the latter I will now speak.

Trees of all kinds should be planted in prepared soil. The soil should be dug out to a depth of 2 feet, and that at bottom ought to be loosened to a depth of at least 1 foot. The openings so made should be larger than the ball, or extent of the roots, and they should not be round nor square, but in the shape of a cross, or of two rectangles placed across each other. Two rectangles, each 12 feet by 6 feet, placed across each other at right angles will be sufficient for moderate-sized trees, but for larger trees three such, 16 feet long by 6 or 8 feet wide, placed across each other, will not be too much. The space, however, let it be what it may, should be such that the inner radius will contain the roots without cramping them, and not only that, but leave a foot clear of prepared earth for them to ramify through before they come in contact with the firm or poor soil.

It is usual to make the pits or holes round, but this has the effect of introducing the growing fibres of the trees into the poor soil all at once, and thus a check is given, which causes many persons to inquire why the tree so planted should do well for a year or two after planting, and then all at once come to a standstill, and even retrograde. When a tree is planted in a round or square hole it is much in the same position as if it were planted in a pot or tub. The roots spread and take up all or most of the food contained in the circular or square pit, and by this time the head shuts out the rain; then the roots, not having extended further than the head, derive little benefit from rains, and, being introduced to the firm poor soil all at once, they feel the loss of the prepared or loose soil, and show that loss in the growths made. By planting, however, in cross-shaped pits the roots will extend rapidly through the prepared soil, and some of them coming in contact with the firm and poor soil almost immediately this will be penetrated by them; and those in the arms of the cross being in good soil will keep up a free growth until the others become established in the firm soil. At the same time the roots being attracted by the loose soil in the arms of the cross will be at a greater distance from the stem, and, therefore, derive the benefit of rains; whereas were the trees planted in round pits the head would exclude most of the rain, and the roots being deprived of that moisture to a great extent, the growths would be poor in consequence, and the necessity for artificial watering would be much increased.

Fig. 1 will convey an idea of the advantages resulting from planting in cross-shaped instead of circular or square pits. Of these not the least is the dovetailing, so to speak, of the roots in the prepared soil; another consists in the moisture retained gradually rendering penetrable to the roots a larger surface of the hard ground at the sides of the hole. Besides, the trees are more secure against winds, and the sides do not give so great a check to the roots as those of a circular pit.

In preparing to plant, the earth taken out of the pits ought to be mixed with a quantity of good, loamy, rich soil. If the soil is poor, one-fourth of the worst should be taken from it, and double its bulk of fresh soil ought to be well mixed with the remaining portion, and the whole, or enough to fill the pit level with the surface, will have to be returned to the pit. If the soil taken out is good, all that is required will be to mix with it one-fourth of fresh soil. Whatever the quantity of bad soil, or stones separated from that taken out of the pits, the remainder should be mixed with one-fourth more fresh soil than the amount taken away. Compost suitable for mixing with the soil in planting may be obtained in most places by collecting ditch-cleanings, weeds, and rubbish of all kinds, and its quality will be improved by mixing with it parings from the sides of highways and road-scrappings, a large per-centage of

which in country districts consists of tree leaves. Such heaps turned over twice, and a cartload of fresh lime added to every ten of compost at the last turning, form excellent top-dressings for grass lands, besides being useful for giving trees a start at the time of planting. There ought to be such heaps of compost at hand, large or small, in every garden. From returning

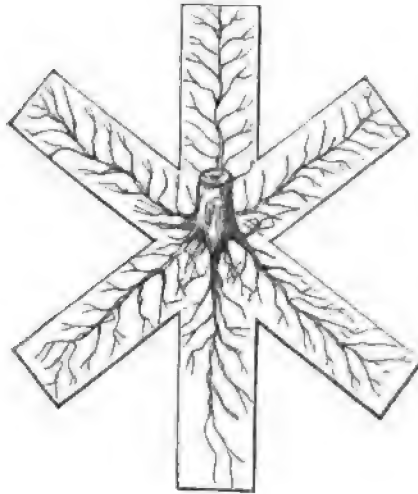


Fig. 1.

the loosened soil taken out of the pit, together with that added to it, the trees will stand on a knoll, and such knolls or mounds should all be of the same height, as they will be if the foregoing directions be adhered to. Before planting the tree the soil in the centre of the pit should be elevated about 9 inches above the surface, and the cone thus formed should have the top flattened to the extent of about 3 feet. If the roots render it necessary, it should be hollowed out with the bottom convex rather than concave; for, when the bottom is concave the points of the roots are apt to be turned upwards, whereas they should incline from the stem of the plant downwards. In all cases the hole must be large enough to admit the roots without cramping or turning them from their natural position.

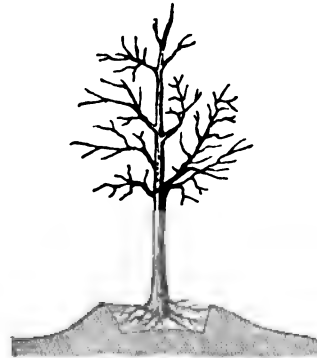


Fig. 2.

Fig. 2 shows a tree planted in a convex-bottomed opening, with the roots coming straight from the root-stem; fig. 3, one placed in a hole with the bottom concave, the points of all the principal roots, from which the smaller roots take their rise, pointing upwards; whilst in fig. 4 we have a tree planted in a raised mound, the top for about 2 feet from the stem of the tree being hollowed out, or concave, for watering the tree after planting. The opening so made, when the tree has become established, or before dry weather sets in, is mulched with stones or rough pieces of turf, either of which will lie open and permit of the basin holding water, and at the same time prevent rapid evaporation. The mode of staking the tree is also shown, for it is necessary after planting to maintain the stem in an upright position, otherwise the wind may force it from the perpendicular when the roots are emitting fresh fibres, and thus destroy many of them; besides, a tree liable to be moved by the wind is sure to have its roots dis-

placed and injured, and trees blown over a few times for want of staking will soon be fit only for firewood.

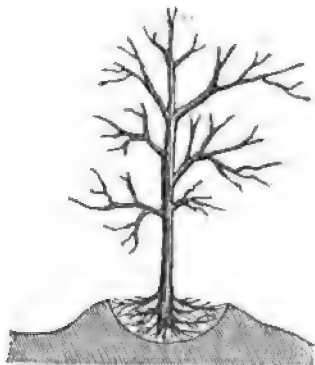


Fig. 3.

The tree having been planted, watered, and the head adjusted by staking, the hill or cone should be sloped down all round and turfed over, or sown with grass seeds, the turf taken from the ground in the first instance, it is presumed, being mixed with the soil as it was returned to the pit, where it will be very beneficial in promoting growth. In planting trees and shrubs they should not be placed lower in the soil than will be sufficient to cover the uppermost roots with from 3 to 6 inches of soil; in fact, the base or setting-on of the roots should be nearly level with the surface, the roots radiating from it at that point being spread out at a slight angle into the soil.

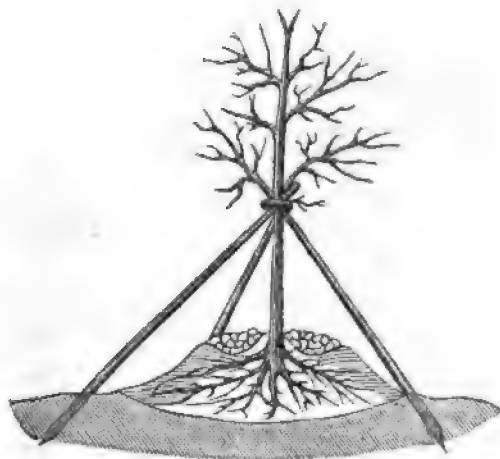


Fig. 4.

By planting the trees on hills we seek to produce the same effect as if the trees had sprung out of the earth naturally, rising, as they invariably do, from an elevated base occasioned by the rising and swelling of the collar. Though the mounds may be rather high, they will sink down so as to be in a few years only about half their original height; ultimately every tree so planted will rise out of a gently elevated base, and this adds to the dignity of expression, without which no tree can have a natural appearance, and that it must have to look well. Imagine the shaft of a tree rising abruptly out of a flat surface, and appearing no thicker at its base than it is higher up! There is no such thing in nature, yet such trees are very common in pleasure-grounds in consequence of neglect in not keeping the roots considerably higher than the general surface at the time of planting. When a tree is planted in a pit 2 feet or more deep, and after planting the ground round it is trodden and watered, by the sinking of the soil the tree will stand in a hollow after the lapse of a few years. This hollow, especially in pleasure grounds, will be filled up from time to time by the gardener, and the collar of the tree, instead of being above the surface as it is naturally, will be buried in firm soil to the depth of from 6 inches to 1 foot. This ruins the effect of all trees, greatly retards their growth, causes or decreases the tendency to produce flowers

and fruit, brings on disease at the collar, and occasions the death of many kinds of Coniferae. It is better to plant high, so that after the ground in which the tree is planted has become consolidated the mound may require lowering by scraping away some soil from the collar, so as to leave a portion of the main roots bare, than to plant low and have to add soil there, producing the objectionable appearance referred to.

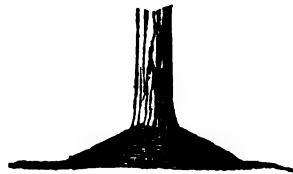


Fig. 5.

Fig. 5 represents the result of the proper mode of planting; fig. 6, the result of planting a tree in loose soil and level

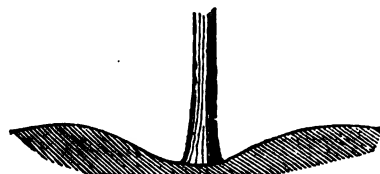


Fig. 6.

with the surrounding surface; fig. 7, the result of the latter in dressed ground, showing the collar buried in the soil, retarding its growth, and bringing on premature decay.

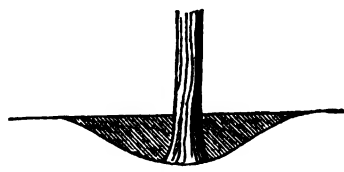


Fig. 7.

When a clump of trees has to be planted it may be desirable to trench the whole of the ground 2 feet deep, and in that case they may be planted on the level, for the soil will settle equally, and cannot cause the collar to settle deeper in the earth than it was when first planted. The same remarks apply to trees planted to form belts, and in plantations, though it is desirable even then to plant on slightly elevated ridges, the trees, of course, being planted on the apex of the ridge, and the underwood in the furrows.

When trees and shrubs are planted with balls of earth adhering to the roots it may not be desirable to plant them on a raised cone, but instead of digging out a hole, and planting them at such a depth as to permit of the ball being covered with from 3 to 6 inches of soil, it may be as well to consider whether doing so is not placing the collar lower than the general surface. In all poor, dry, shallow soils, and very strong, heavy, clay ground, it would be much the better to place the tree, with the ball on or but a few inches below the general surface, and to place soil around, so as to form a cone, covering the ball with from 3 to 6 inches of soil, and dished out at the top so as to hold water. The sides of the cone so formed should be concave rather than convex, so that the fresh soil may unite kindly with the firm soil instead of cracking. Trees so planted will thrive much better than those planted on the level. They look much better, and grow more vigorously.

As to the best time for planting differences of opinion may exist, but that, I think, is chiefly to be attributed to different soils. Where the soil is light and dry the best time to plant deciduous trees is in autumn, as early as the fall of the leaf will allow; but where the soil is cold, wet, and tenacious, I have found that trees planted in March succeed better than when planted in autumn, especially if the winter is unusually wet. Spring, a little before they start into growth, is the most suitable time to plant evergreen shrubs and trees. Planting in their case may also be carried out in autumn, but not until growth has been perfected, and as early as possible, and then, if the soil is wet and cold, it is ten to one that they will not form a single fibre.

It is desirable to plant young trees in preference to those which are large, though the latter are calculated to give effect at once. Removing large trees is waste of money. There is the preparing of the tree for removal, transporting it to its destination, staking or otherwise fixing it when planted, mulching the ground around, watering afterwards, perhaps throughout the summer, and all this costs as much as would prepare the soil, and plant twenty different species, including the purchase of the trees. I grant that the effect of large trees is striking and immediate; but even if they thrive, which is always a matter of doubt, they bear no comparison with young trees planted in prepared soil. Take the large tree, it lingers on from the first, producing year after year a still more sickly and feeble vegetation, until it finally decays; but the young tree even from the first season makes strong and vigorous shoots, attaining yearly a still greater degree of perfection and beauty. Yearly the young tree makes ample and visible return for the care and trouble bestowed upon it, while a large tree often remains a constant reproach to the transplant. Every practical gardener knows that in almost all situations, if he be allowed to prepare the soil properly and select trees suitable, he can produce a tree in seven years fit for any purpose in landscape scenery, quite equal in bulk to any transplantable tree, and having the advantage of being firmly rooted in the soil, and in circumstances to increase rapidly every year.—G. ABBEY.

ORCHARD-HOUSE TREES IN POTS.

MANY failures are owing to the wood growing too strong, and it, consequently, being imperfectly ripened, the fruit-buds are apt to fall off immaturesly. The best remedy for this is to lessen water towards autumn, and to lift the pots out of the soil, breaking any roots that pass through into the ground, and then watering and syringing a little to prevent the leaves flagging. This, and the pinching-in during summer, will ensure well-ripened wood; and strength for the swelling buds to neutralise the roots lost by lifting the pots, can be communicated by picking away with a stick some of the surface soil of the pots and adding rich surface compost in the autumn. Fresh fibres will form in that during the winter, and will much help the swelling buds in the spring.

A correspondent, "INQUIRER," says the trees he has have weak shoots, and the fruit shrivels. In this case weakness, instead of strength of growth, has chiefly to be contended against. I think it very likely that the burnt appearance at the ends of the shoots is owing either to mildew or insects, or to a weak, unhealthy condition of the plants. This condition I have seen produced by giving the plants too much rank manure, either in the solid or liquid state. A man may be injured as easily by eating too much rich food as by not having enough of plain nourishing food to sustain the wear and tear of life. Without knowing more of the treatment of your plants than you tell, it is impossible to say what is the cause of their present weakly condition; but in default of that evidence I would be inclined to say that your trees are suffering from want of nourishment.

Fruit trees in pots, it must be recollected, have such little space to root in, that they are almost wholly dependant on what you do for them. If the pots are set on shelves, or merely on the surface of the ground, they are still more dependant than when partially plunged in the soil. Independently of the roots that will find their way out of the pot in the latter case, and which help the swelling fruit, the protecting of the pot helps to keep the roots in a more equal state as respects temperature and moisture. Even then, however, in bright weather, they will want watering often, say once a-day, and in duller weather every other day during the growing season. Deficient watering is one cause of the trees in pots frequently failing. I have alluded to the ripening of the wood in the autumn. If the trees are lifted to help the ripening of wood, water must be given afterwards to prevent anything like shrivelling. Even in winter the roots, though they may be rather dry, should not be dry. I have known buds and young fruit fall in spring, because the roots had been too dry and inoperative in winter. Frequent dryness in summer will not only cause the fruit to fall, but also render the trees unhealthy. One of the pleasures of the culture of fruit trees in pots is the almost constant demands they make on your attention. It is a wise provision in nature, that we become most attached to that which demands most of our care. When this somewhat nursing attachment between us and our fruit trees in pots

ceases or languishes, it is about time to think of dissolving the connection. Watering, therefore, must be an element of pleasure to the amateur who wishes to succeed with fruit trees in pots. Not only so, but in such limited space the water must be richer than common pond or rain water. This richness is easily given by mulching or top-dressing.

I have alluded to top-dressing in autumn. By the time the trees are showing bloom, as much soot or superphosphate as can be held between the thumb and three fingers may be strewn over the surface of each pot of 16 inches, or as much guano as may be taken or held between the thumb and forefinger, and this may be repeated in a week, the watering washing it in gradually. As the season becomes warmer, however, a mulching of rotten dung an inch or two deep may be packed over the surface of the pot, and whilst some nourishment will be obtained, the mulching as long as it remains will lessen evaporation, and therefore save such frequent waterings. This mulching may need repeating again during the summer, for it soon wastes away in such circumstances. Even with this mulching, clear manure waterings, weak rather than strong, will be an advantage if given at every second or third watering. For instance, a bushel of horse-droppings may be steeped eight days in a thirty-six-gallon barrel, half a bushel of sheep or deer droppings, a peck of soot, and a little lime for clearing, 2 lbs. of superphosphate, and 1 lb. of guano; the two last to be used at once, the soot to stand twenty-four hours. About half the quantity will do for the next brewing, as some virtues will remain after the first watering. I am thus particular, because over-rich waterings are as bad as weak ones, but in an opposite way. Mulching the surface is one of the easiest ways for giving manure waterings, especially when the watering is done with a coarse rose, and when time can be spared, it is also better for the plants, as more air is taken down with the water from a rose to the roots. Unless on fresh mulching, however, it is seldom I use the rose, just on account of the time it takes to let the water down. The spout is used instead, though not so good.

Now, if, after reading this, you come to the conclusion that your trees are suffering from poverty, I would advise the scraping off as much of the surface soil, and breaking the surface with a pointed stick of what was left as would not hurt any of the active fibres, then add a little, say an inch, of nice, fresh, rough, mellow loam, and then top-dress with half-rotten dung, say horse-droppings that had been thrown into a heap to heat and destroy all the corn that might be in them. Afterwards water for a week with clear water, and then alternately with weak manure water, or scatter a pinch of strong manure on the mulching, to be washed through it, as previously stated. If, as suspected, poverty is the cause, the trees will improve under this regimen before the autumn, and lay the foundation for future success, and thus you will be doing the best whatever the ultimate destination of the trees.

I have presupposed that the roots are sufficiently drained, for stagnant moisture will cause the appearances you describe, as well as want of water and poverty. I also presuppose that the tops of the trees are kept clean by frequent syringings after the fruit has fairly set.

As you have such a nice house it would be a pity to take it down again; and as for the trees, I fear, if your description is correct, that you will scarcely make a market of them "at almost any price;" but I see no reason why you should not succeed with them in pots if you give them the requisite, and that is very constant, attention. Even the watering alone takes a great deal of time and care. If the trees were planted out, they would be more independent of your care, but they would also be less under your control.

If the trees have suffered from poverty the above treatment would be the best preparation for planting them out. The best time for doing it would be as soon as the fruit was gathered, and the best mode, if the trees were still to be grown as dwarf bushes and standards, would be merely to break the outside of the ball a little, so as to let the fibres out into the soil, and the fresher the soil the better.

If, however, you have any reason to believe that the trees have suffered from stagnant moisture, and the soil from that cause has a sodden claggy appearance, or it has become of an unhealthy character from a superabundance of rich waterings or dressings, it would be advisable to wait a little longer until the leaves began to change colour, and then in a large tub wash away all the old soil, and lay the roots out anew in fresh loam, and keep the house rather close and the trees syringed for a couple of weeks afterwards, and give a little

shade if the weather is bright, so as to insure the wood being plump. Under such circumstances new roots will soon form, and if the plants are not so very far gone you may be as much troubled next season with strong growth as you are now with weak growth.

To keep the bushes, &c., small after planting-out, it will require a good deal of judicious root-pruning. To make the most of such a house for fruit with the least amount of labour and care, I would fix a trellis on each side of the span, 15 inches from the glass. I would plant-out the best plants on each side, and train to the trellis, and keep the others in pots until the trellis was full. If there were still doubts as to your trees being quite suitable for that trellis, you could obtain from six to eight trained trees for the trellis, three or four on each side, and keep those you have in pots until the covered trellis left no room for them. Though I have lots of pots doing well, I am convinced that for profit nothing beats the trellis under the glass. Even in lean-to's, with trees against the back wall, and some sort of trellis for some three-quarters of the width in front, I am pretty certain that a trellis up the roof under the glass would be the most profitable. Planting-out and keeping as dwarfs in the house has also its advantages, and chiefly on the score of augmented interest, and being placed more under the control of a lady or gentleman amateur; but on the score of economy every way I do not think anything will surpass a trellis at a uniform distance from the glass, which uniformity alone gives a better security for all the fruit being equally well flavoured. I shall be glad to hear further on the subject.—R. F.

NEW BOOK.

Wayside Flora; or, Gleanings from Rock and Field towards Rome. By NOKA BELLAIRES. London: Smith, Elder, & Co.

We welcome this little volume, the contents of which we need not praise, for they have, for the most part, been published in our pages. They are worthy of a separate form, and it is wishing a good wish when we say that we would not that any civilised being could be found who did not enjoy what is there written.

PEAR BLOOMING ON THE PRESENT YEAR'S WOOD.—I have a large Jargonelle Pear with several blooms on the present year's wood, some of which have set very freely. Some of the Apple trees are also showing bloom, but unfertile.—H. S.

WORK FOR THE WEEK.

KITCHEN GARDEN.

THE weather is now very suitable for planting out good breadths of Brussels Sprouts, Savoy, Curled Kale, and Broccoli of sorts. Where the ground is occupied by patches of early or second early Potatoes, to be used in the course of the month, it is a good plan to part the haulm between every second row, and plant Knight's Protecting Broccoli or other spring sorts to stand the winter. The increased space between the rows gives room to earth them up to the neck, they grow stiff and hardy, and are fit to withstand the frosts of our most severe winters. Beans, top these and the tall varieties of Peas, as they are growing very rampant this year from the wet weather. Celery, ridge out for the main crop, also a trench of Cardoons where they are looked for. Cauliflower, make sowings in the middle of the month, also of Walcheren, Snow's, and Grange's Broccoli for planting for late lifting, to be packed in beds in the open air. As soon as frosty nights are apprehended a spot is selected for laying them in, in beds 4 or 5 feet wide, with alleys about 2 or 3 feet in width, to retain the litter for covering in frosty nights. It is by far the best way of keeping up through the winter a good supply of fine white heads, devoid of the disagreeable smell and colour they acquire when kept in sheds or sand. Endive, sow the main crop, and plant out a few of the earliest sowings. Lettuce, transplant; they are better of being earthed up like Celery to the depth of 6 inches. Cucumbers, peg down the shoots of the pickling sorts, to keep them from being blown about by the wind. Capsicums and Tomatoes, keep them nailed to the walls or wooden fences; thin also or stop their shoots frequently, as they require all the sun possible to produce good crops of fruit in our climate. Lettuces, continue to sow; also Radishes and Salads of all sorts according to the consumption. Potatoes, earth up the late sorts.

FRUIT GARDEN.

See that Peaches, Nectarines, and Apricots are nailed, if not already done, as the wind is sometimes very strong about this time, and makes sad havoc with the shoots. Vines on the open walls still require rubbing off the useless shoots, nailing in those that are useful, and thinning the Grapes. Currants and Gooseberries require all the watery useless shoots to be thinned out. It is a good plan for keeping Red Currants till the latest period for tarts, &c., to select some of the best bushes on a dry day, thin all the shoots from the fruit, drive a strong stake in the middle of the bush, and tie all the branches to it, then wrap one or two good garden mats round it. From bushes treated in this way a supply may be kept up till November. Trained fruit-tree espaliers should have useless shoots removed. The Elton and British Queen Strawberries are colouring badly and rotting in shaded situations, owing to the wet weather. The fruitstalks ought to be propped up with forked sticks, to expose the fruit to as much sun and light as possible.

FLOWER GARDEN.

Attend to the greenhouse plants now placed out of doors. See that worms do not effect an entry into the pots and close the drainage. Attend to the routine of tying, stopping, and other details. Carnations and Picotees may now be layered, and a stock of cuttings of Geraniums put in. Bulbs may be taken up and stored away until the autumn, and their places immediately occupied with flowers from the reserve stock. Perpetual Roses will be benefited by an application of manure water to insure a healthy second bloom. A better production of bloom will be obtained by picking off excessive buds. Russian Violets may be separated, and fresh plantations made. Mow and roll grass. Attend to walks, the weather at present encouraging the growth of weeds. The present is a favourable time for putting in cuttings of all the more showy herbaceous plants, selecting for the purpose the small shoots not furnished with bloom. A north border is a suitable place to strike them, and a hand-glass will facilitate their rooting quickly. Go over the beds frequently, and keep the young shoots of Verbena, Petunias, &c., nicely regulated and pegged down until the ground be fairly covered, after which greater freedom of growth may be permitted. On light dry soils two or three applications of weak manure water, given at intervals of a few days and when the ground is moist, will greatly assist the plants to cover the beds without loss of time.

GREENHOUSE AND CONSERVATORY.

The beauty of the most of the softwooded plants in the conservatory may be considerably prolonged by the use of weak manure water, which should be given occasionally. Indeed, such things as Aeschines, Clerodendrons, &c., may be had in full beauty for several months if they are supplied with manure water; but care must be taken not to give it too strong, especially at first. Keep the atmosphere as moist as possible, but avoid damp at night by leaving sufficient air on to cause a gentle circulation, and spare no attention that will keep the plants clear of insects. Stock for autumn and winter flowering will now require some care to bring it sufficiently forward to be useful at the proper time. Chinese Primulas, especially the double varieties, if at all backward, may now be placed in a close frame and shaded from the sun, when they will be found to make satisfactory progress. Cinerarias for early flowering should also be potted and started at once, choosing the strongest suckers for the purpose, and placing them in a close shady frame until they have become rooted. They are sometimes attacked by thrips, but if they are kept cool and moist and smoked occasionally no danger need be apprehended from this or other pests, and they will grow vigorously. Whilst house-creepers are in an active growth, make it a rule to go over them frequently, in order that they may not grow into a confused state. The same may be said of creepers in pots, which require attention for the same reason every few days. Any shoots which have done flowering should be cut back, and a crowded growth avoided. A number of hardwooded plants which were cut back some weeks since, will now have recovered themselves and be commencing a fresh growth. This is the proper time to shift into larger pots any plants requiring it. Carefully loosen the outside roots. After potting keep the plants closer for a few days, and syringe them daily; but avoid giving any more water to the roots than is sufficient to preserve the old ball moist. To prevent watering so quickly after potting, let the roots of the plants be well moistened before being potted.

STOVE.

As many of the principal plants will now be in the conservatory, advantage must be taken of their absence to encourage the plants for winter blooming, especially such as *Justicias*, *Eranthemums*, *Begonias*, *Aphelandras*, *Euphorbias*, &c., and a batch of *Achimenes picta* and *Gesnera zebrina* must be started for the same purpose. *Rondeletia speciosa* is an excellent winter plant when sufficient heat can be afforded, and *Torenia asiatica* and *Pentas carnea*, especially the latter, are very useful plants. *Luculia gratissima* and *Pinoeana* must be placed in a sheltered corner in the open air to ripen the wood and set the bloom; never mind the leaves turning brown, they will soon recover that when placed in heat again. Maintain a moist growing temperature with plenty of air, and guard against insects. So far as Orchids are concerned, those showing indications of matured growth may be removed to the cool end of the house for a few weeks, and afterwards placed in quarters where the temperature and atmospheric moisture will not interfere with the slow progress of the plant towards a state of rest. *Dendrobiums* and others of that class should be grown on till the shoots are of sufficient height. Remove the first appearance of every form of weed or insect, and keep the sponge constantly at work, for much of the health and vigour of plants depend upon this. See that no plants are neglected in consequence of standing in corners or behind large plants. Arrange and re-arrange frequently, for doing so tends materially to promote the well-being of the plants, while it heightens in a high degree the interest of the house.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

THE thunderstorms and the rains which we expected have come, and, if injurious to some things, have furnished a good opportunity for turning over and filling with Winter Greens every bit of unoccupied ground.

Planted out a good piece of Coleworts between Peas that will soon be off. These we generally plant a foot apart in the rows, and the rows are a foot apart. Planted out also a border of the Early Elm Savoy, a sweet little vegetable that comes in early, and which does well a foot apart. These are as useful in the autumn and early winter as the dwarf and larger Savoy are at Christmas. Our manure for these, Brussels Sprouts and Scotch Kale, has chiefly consisted of *mowings*, short and longer, allowed to lie in a heap until in strong heat and incipient decomposition, and then trenched down in the bottom of the trench. This manure gives assistance to the plants long before the roots reach it; and before that takes place it will have lost its rankness. When we used to pride ourselves on having large Celery fit for use in July, we took out deep trenches, say 2 feet in depth and 4 feet in width, put in 18 inches of this hot grass and litter, trod it firmly, covered it with 6 inches of soil, again trod it firmly, and then put on 6 inches of rotten dung and soil. The heat from the decomposing grass pushed the Celery along, and it was becoming sweet and mild and much reduced in bulk before the Celery roots took hold of it. Where there is labour at command there need be no standing still for bottom heat after such mowings come in. When mixed with rather dry litter such a mixture will afford heat a long time, until, in fact, the litter has become decomposed; and if there is from 12 to 15 inches of sweet or more decomposed material above it, the rankness will not hurt anything; but of course, if either the roots or leaves came in contact with that rankness directly it would be very prejudicial.

We recollect when, from want of anything better, and wishing to have all the benefit of the heating short grass in the ground, we first used it as a heavy dressing for a piece of Cauliflowers; the Cauliflowers grew wonderfully fast, but owing to the trenching being carelessly performed—the ground left level, some shoved in hills and dales—there being great depressions over the trenches where an extra quantity of such manure had been placed, and in those places where the mowings had been left near the surface some plants suffered, looking in bright sun as if the roots had been nibbled by wireworm. We knew well enough what was the matter, and kept our own council. Such fresh material should, for all fresh plantations, be from 12 to 18 inches from the surface. When people shall be less frightened to use such rank stuff the mowings and sweepings might often be taken to a quarter in

the kitchen garden, and two wheelings instead of one might be avoided.

Those who would be afraid to use such rich manures as these grass mowings and sweepings make when in this rank state, instead of allowing them to lie and rot (and most of their best properties thus escape into the atmosphere), should have them covered over with earth or with part of the general rubbish-heap, and then the latter will be greatly enriched in its manurial properties. Even when used fresh, as manure, or for giving heat to plants in frames, danger will be averted if the materials do not come near the roots, and no steam or vapour escape into the atmosphere of the space occupied by the leaves. When used, therefore, for bottom or for top heat, no crevice should be left to allow the strong steam to pass upwards, for it will assuredly kill all that it can reach in a close atmosphere.

Celery.—Took the opportunity to plant out several large beds. We use the beds of any convenient size, as the width is of but little importance where the earthing-up is done well. This season our beds are 4 feet wide, with 3½-foot-wide spaces between them, these ridges being cropped alternately with Peas, staked, and with dwarf crops of Kidney Beans, &c., so that there may be no difficulty in passing along the dwarf-cropped ridge to water the two beds of Celery; and then the rows of Peas, with the stakes, give a shade to a certain extent. When we used each ridge for Peas we had them wider, and the beds also wider. These beds were taken out about 15 inches deep, and the soil laid on the ridges on each side. Then in the bed was placed about 6 inches deep of half-rotten dung from old hotbeds, and that was dug-in and incorporated with the soil, and then was added about 6 inches more of rotten leaf mould and hotbed dung, with a little soil chopped from the sides mixed with it. In such beds we have often put four rows, but this season we have only put three rows, the plants standing a foot apart each way, and the outside rows being nearly a foot from the side of the trench. Even such kinds as the Dwarf Incomparable require that space to form nice stubby plants, and strong-growing kinds need more room. Where room is scarce the beds may be from 6 to 8 feet wide, and then a bed will give a large number of plants. When the plants are tied before earthing-up, the mere width of the bed does not interfere in the least with their easy management.

So far as our experience goes, plants in wide beds are not so apt to bolt, even when planted early, as those in trenches from 9 to 12 inches wide, as the roots do not come so readily against the firm sides of the trench. When merely some 3 or 4 inches of rotten manure are given to a trench a foot wide or so, strong Celery plants would soon begin to feel like a plant in a pot, which will ever have a tendency to throw up a flower-stem as the roots become firm round the sides of the pot. Plenty of water and doing away with the bit-by-bit earthing-up of early Celery, are, however, the great preventives against running-up flower-stalks. The whole theory of this has already been explained. We must not say what the Celery will be this season, but this we can say, that where such simple details can be attended to, there need not be a single run head of early Celery.

The planting, too, though trifling, is also of some importance. A farmer friend used often to speak of a row which he once had, and the perspiration into which he was thrown in carrying the plants home. He had the plants with large balls of roots, and in his rotten muck they did grow, and never suffered from the moving.

We noticed in some of our beds a few plants flagging, which they had no business to do with the balls with which they ought to have been lifted from the pricked-out bed. The man had been planting with a hand trowel, a very nice implement for ordinary purposes, but not at all calculated for such fine plants with large masses of fibrous roots in the rotten leaf mould. It could only be done properly by making good trenches with the spade; for then the ball could be laid in at the proper depth, and the fibres would not be crushed by the ball being squeezed into a hole too small for it. This little matter is often neglected when planting with a trowel. The hole should always be large enough to permit of the fibres going out freely into the loose fresh-turned soil.

Even when plunging plants in pots in a bed, where nicety as to appearance and the welfare of the plants are considered, the hole made should always be large enough; it is in every way better to throw a little material into the bottom of the hole in order to keep the pot to the right level, instead of attempting to squeeze the pot down, for then it will not long

maintain the same level with the others, and free drainage will to a great extent be prevented. Of course in this trowel or spade planting the whole process is intended to be quite different from dibble planting. In the latter case the roots are generally few, and with but little earth about them. In their case the firming of the earth about the roots is the chief point, and, as previously explained, this can only be well done with one stroke of the dibble inserted in an oblique direction to the plant, and then brought sharply up to the perpendicular. So put in a plant will be more firm than if it had received half a dozen pottering strokes from the dibble. We are always suspicious of the plants being hung—that is, the roots suspended in an open space, when the planter uses more than three strokes of the dibble—one to make the hole, one to fasten the plant, and a back stroke with the point to partially fill the hole made by the second stroke.

FRUIT DEPARTMENT.

Very much as described in previous weeks' notices. Protecting and gathering fruit, syringing orchard-houses, thinning Grapes, lessening shade in earlier houses, and nipping out a few bad berries inclined to damp from drip, and watering as required. Peaches and Figs swelling to ripening want plenty of water and plenty of air, as dryness at the root will arrest free swelling, and a close atmosphere will cause Figs to damp at the points, and Peaches to be deficient in flavour.

ORNAMENTAL DEPARTMENT.

Here we have had much to do in mowing, clearing, &c., the rains making the grass grow too fast for the mowing machine. Potting Cinerarias, Primulas, &c.; giving Epacris a good open place in a pit to harden growth, regulating conservatory, making up any faults in flower-beds, &c., but we have time to allude to two things only this week.

First, placing greenhouse plants out of doors. We do not think there is any advantage in this if it could be avoided. A place a little shaded, but commanding either the morning or afternoon sun for few hours, is generally best; but if the plants are injured to it by degrees, even Heath, Epacris, Cytisus, &c., will suffer little from a south exposure if the pots are protected from the sun's rays. A piece of mat or a turf on the south side of the pot would often be sufficient. Under such circumstances, and as avoiding much extra attention in summer, plunging the pot to within an inch of the rim, either in ashes, or sand, or even earth, is a good plan, as there is no chance of the fibres being scorched, and the firmness of the pot gives a security against high winds to the head of the plant; but in plunging thus in summer all valuable plants, and especially all those with hair-like fibres, the hole should be large enough to permit of two bricks, or two tiles, or stones, being set on their sides at the bottom of the hole, with an open space between them. The pot will stand on the bricks, and the open free space will alike keep the worms away and secure drainage.

A second matter to be borne in mind, both in-doors and out of doors, is that all supports for plants, sticks, &c., are necessary evils—evils, therefore to be hidden instead of exhibited. All necessary supports should therefore be kept out of sight as much as possible. Young shoots of any shrub or tree with the bark on are, therefore, better than all clean-shaved sticks; and all plants grown to a stem in the pyramidal form may be secured with one stake only, the subsidiary branches being kept secure by a loop of small string, generally more inconspicuous than matting. Even rather large Geraniums and Calceolarias may be made pretty secure by means of one stick in time, and the other shoots hasped to it with a loop. One would imagine at times that the stakes were the objects to be looked at, instead of the plant, and one step in the right direction will be taken when even the one stake necessary for most plants shall cease to be an object of attraction—be, in fact, looked upon as a drawback, which it is necessary to conceal as much as possible.—R. F.

WELLINGTONIA.—In your Number for June 26th, Mr. Robson asked for memoranda touching Wellingtonias. At Shotover House, Oxon, there is a remarkably well-grown specimen. It was planted in 1859, and had then attained a height of 6 inches. In June, 1862, the circumference of the base (at ground) was 9 inches, the height 4 feet 3 inches. In June, 1866, the dimensions of the same tree were as follows: height, 12½ feet; circumference of branches, 37½ feet; circumference of trunk at 6 inches from the ground, 29 inches.—C. F. W., Forest Hill, Oxon.

COVENT GARDEN MARKET.—JULY 7.

SUPPLIES of both home-grown and foreign fruit are well kept up, and as the London season is now drawing to a close, the more choice productions will rapidly decline in prices. Pines are in excess of the demand, and there are heavy arrivals from the West Indies. Soft fruit generally, notwithstanding the rain of last week, has been good in bulk and appearance, but deficient in quality. Good Regent Potatoes can now be obtained at prices ranging from 6s. to 9s. per bushel.

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes	each	0 2 to 0 4	Leeks	bunch	0 8 to 0 9
Asparagus	bundle	6 0 8 0	Lettuce	per score	1 0 1 6
Beans, Broad	bushel	5 0 0 0	Mushrooms	pottle	8 0 4 0
Kidney	100	1 0 2 0	Mustd. & Cress, punnet		0 2 0 0
Beet, Red	dos.	2 0 8 0	Onions	dos. bunches	4 0 6 0
Broccoli	bundle	1 0 1 6	Parsley	½ sieve	2 0 0 0
Brus. Sprouts ½ sieve		0 0 0 0	Parsnips	dos.	0 9 1 6
Cabbage	dos.	1 0 2 0	Peas	per quart	0 9 1 3
Capicums	100	0 0 0 0	Potatoes	bushel	2 6 7 0
Carrots	bunch	0 4 0 8	Kidney	do.	8 0 10 8
Caulliflower	dos.	2 0 8 0	Radishes	dos. hands	0 6 1 0
Celery	bundle	2 0 8 0	Rhubarb	bundle	0 4 0 8
Cucumbers	each	0 4 1 0	Savoy	dos.	0 0 0 0
pickling	dos.	0 0 0 0	Sea-kale	basket	0 0 0 0
Endive	dos.	2 0 0 0	Shallots	lb.	0 8 0 0
Fennel	bunch	0 8 0 0	Spinach	bushel	2 0 3 0
Garlic	lb.	1 0 0 0	Tomatoes	per doz.	2 0 4 0
Herbs	bunch	0 8 0 0	Turnips	bunch	0 4 0 6
Horseradish	bundle	2 6 4 0	Vegetable Marrows ds.		0 9 1 0

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples	½ sieve	0 0 to 0 0	Melons	each	4 0 to 8 0
Apricots	dos.	2 0 4 0	Nectarines	dos.	6 0 12 0
Cherries	lb.	0 6 1 6	Oranges	100	6 0 12 0
Chestnuts	bush.	0 0 0 0	Peaches	dos.	10 0 15 0
Currants	sieve	5 0 6 0	Pears (dessert)	dos.	0 0 0 0
Black	do.	0 0 0 0	kitchen	dos.	0 0 0 0
Figs	dos.	8 0 15 0	Pine Apples	lb.	4 0 6 0
Filberts	lb.	0 0 0 0	Plums	½ sieve	0 0 0 0
Cobs	100 lbs.	0 0 0 0	Quinces	½ sieve	0 0 0 0
Gooseberries	quart	0 4 0 6	Raspberries	lb.	0 0 0 0
Grapes, Hothouse	lb.	3 6 6 0	Strawberries	lb.	0 6 2 0
Lemons	100	6 0 10 0	Walnuts	bush.	14 0 20 0

TO CORRESPONDENTS.

. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

LIVE AND LEARN.—We have a letter for you, which we will forward to where you may direct.

BOOK (*A Young Amateur, Winchester*).—"The Garden Manual" will suit you. It can be had free by post from our office if you enclose twenty postage stamps with your address, ordering the book.

CLEARING A LAWN OF DAISIES (*A. W.*).—The best plan is during moist weather to take them up with an old knife, and to persist in doing this for a year. A dressing of rich compost in March, so as to cover the lawn about a quarter of an inch deep, would make the grass grow and the Daisies also, but as the latter are thus stimulated to raise their heads too high the mowing takes them off. We have a croquet ground in which Daisies caused us much trouble, but since we manured it every year in March, and applied a dressing of guano at the rate of 2 cwt. per acre in the first moist weather in May, and a similar dressing in July, we have seen few Daisies, and the sward is excellent. A lawn adjoining is the very opposite; the ground is poor, and the Daisies and weeds there find a home from the poorness of the grasses. If you grub up the Daisies and weeds, we would advise you to give a good dressing of rich compost in March, and to sow in April, when there is a prospect of rain, *Cynosurus cristatus*, 4 lbs.; *Festuca duriuscula*, 4 lbs.; *Festuca tenuifolia*, 2 lbs.; and, if shaded by trees, *Poa nemoralis*, 2 lbs., if not 1 lb.; *Trifolium minus*, 4 lbs.; and, if light dry soil, *Lotus corniculatus* minor, 1 lb., but if wet omit it. Immediately after sowing rake the lawn with an iron rake, and roll.

CARNATIONS, PICOTEES, PINKS (*C. M.*).—Carnations have coloured stripes from the centre of the petals quite through to their edges. Picotees have colour only round the extreme edge of the petals, like a border. Pinks have only a band of colour, rough on both sides, and with some white between it and the edge of the petals; there is colour also at the base of each petal, so as to form an eye. Your Rose leaves have been eaten by some caterpillar.

ROUND SCYTHE STONES.—Can any of your readers inform me where I can purchase round scythe stones, called "Real Welsh Waterloo Scythe Stones," made by a Wm. Foster?—A GARDENER AND CONSTANT READER.

LONGERA AURO-RETICULATA BLOOMING.—We have received so many notes stating where it is blooming that it need not be regarded now as extraordinary.

PAPER READ AT THE BOTANICAL CONGRESS (*G. T. S.*).—We have no copy of the paper you refer to. Have you Pearson "On Orchard-houses?" You can have it free by post from our office for twenty postage stamps.

LINNEAN SOCIETY (*Botanics*).—To become a Fellow of the Linnean Society you must be proposed and seconded by a Fellow, each of whom has personal knowledge of you; pay six guineas as an entrance fee, and £3 as an annual subscription.

are scarcely pretty enough for pets, and I imagine Mr. Radclyffe to be fond of pets. Dorkings, with all their merits, the chief being as an article of food, have such a farm-yard look about them, that they seem out of place unless walking among corn ricks.

I now come to the variety I earnestly recommend to Mr. Radclyffe—that is, Hamburgs. I sat down and talked over their merits and demerits the other day with a parishioner of mine, who has kept them several years. He assured me, and he was a poor man who scarcely feeds high enough, that he has had eggs regularly from before Christmas to this time. I can vouch for the truth of this, as, but for my poor neighbour's Hamburgs, I should many a time have lacked my Sunday egg, a necessity with me after my second service. Then Hamburgs are very healthy, and never broody. Should Mr. Radclyffe wish for chickens, which he perhaps will, though a secondary object, I would advise that he should follow my plan—keep a few Game hens with his Hamburgs. These laying fawn-coloured eggs, and the Hamburgs white, there could be no mistake, and Game hens are excellent sitters and mothers, and are of a suitable size to bring up Hamburgs.

There is, however, yet another reason—the Hamburgs are so very pretty, everybody admires them at once, everybody gentle or simple, whether of the Adam or Eve variety. I see by my "Clergy List" that Mr. Radclyffe is at least of my standing. Well, he may have, then, a wife and family, and I assure him from the tiniest child up to mamma, and down again from mamma to the youngest domestic just from the village school, all will expatiate on the beauty of the Hamburgs. Lady visitors, for there are always lady visitors where there are ladies, will at once approve. Or, I will suppose—

"When thought is warm, and fancy flows,
What will not argument sometimes suppose?"—

that Mr. Radclyffe lives a bachelor, and, if so, I am sure ladies come to see his roses, his peaches, and—himself. Now in future he will like to take them from flower garden to poultry yard, but if he have Cochins they, the ladies, will serve him as they did me (alas! 'tis true), and one and all exclaim with that feminine shudder which draws back the corners of the mouth, tightens the neck, and raises the shoulders, "Oh! what horrors! what frights!" And this is not pleasant—it humbles one, it reflects painfully upon one's judgment, for in vain I tried to draw attention to the sensible-looking heads of my Cochins, and the various beauties of that variety, but 'twas all in vain. Now it is, "What pets! what darlings! what beauties!"—and this is consolatory to an owner, the pretty phrases sound so very prettily. Perhaps Mr. Radclyffe will plead that he is wholly indifferent to praise or blame from such a quarter, but that I doubt. However, leaving the point unsettled, I beg to recommend Hamburgs; there are the two colours, silver and gold, and the four varieties to choose from. I am glad to find that Mr. Radclyffe is about to become a poultry fancier, and although some persons keeping fowls may have "tricks worse than in horseracing," yet he will find many kind, honest, genial hearts among poultry fanciers. Of this let him take the word of one whose experience among them has been extensive—viz., of—WILHELM RACON.

PROFIT FROM DUCKS.

WHEN I sent you a few lines respecting the profit to be obtained from feeding Ducks I did not enter into any detailed account of their management; for although this result was somewhat of a surprise to myself, I did not feel assured that the communication was of sufficient interest to insure its insertion in your columns. However, I willingly comply with Mr. Beyton's request.

Outside my garden wall is a small strip of ground bounded by a brook. By this land is a glazed shed 24 feet long by 9 wide, wherein the Ducks were kept, and the hen removed when they were a fortnight old.

The shed is used to harden off bedding plants after their removal from a vinery, and with this use the Ducks did not at all interfere. The floor was covered with rotten dung from an old cucumber-bed. This proved useful for manure water, and as a top-dressing for Peach trees in pots and dwarf fruit trees generally.

The Ducks were fed at 6, 9, 12, and 7 p.m. Grains were not given until the Ducks were a month old, and were mixed with a small quantity of Indian corn meal. At first they did not eat all the grains purchased, for it was necessary to purchase

half a bushel at a time; but when they were seven weeks old they consumed exactly a bushel a-week.

When about five or six weeks old they looked miserable, dirty, and with weak eyes; but this was all changed directly they were allowed to go into the water daily. I may mention that two of my neighbours who keep Ducks were so pleased with the appearance of mine, that they inquired the mode of feeding, and I was strongly urged to send them to a poultry exhibition which was held in the town at that time, to show what Ducks could be brought to in eight weeks. The garden refuse consisted of a bed of seventy lettuces which ran to seed. After the daily cooking was finished some cabbage was generally boiled for the Ducks. Our household consists of nine, and although not extravagant, there is much food which but for the Ducks would have been wasted. I am aware that these circumstances are unusually favourable; still the result is so remarkable, there must be some other cause.

For some time past I have recommended my friends to feed their poultry principally on grains, but till this year never had the opportunity of testing this plan for myself. I believe it is from the quantity of this food that the success is due. To feed a Duck of a month old on barleymeal—an expensive, highly fattening food—is probably a mistake: it should be reserved for the last few days of his life. After my last letter the weather became so hot that the glazed shed was unsafe; the Ducks were therefore obliged to be allowed to go into the water all day. The effect was most marked. They no longer cared to eat lettuce, and consumed much less food, seldom coming home until supper time. The Ducks were kept in the centre of a large town, but there was never any difficulty in persuading them to return by a whistle at bedtime. Lastly, at the time I wrote Ducks were selling at 7s. 6d. to 8s. a-couple at the poulterers'.—B. A.

P.S.—I enclose my name.

BURY ST. EDMUNDS POULTRY SHOW.

DEPRIVED as this Meeting was, in consequence of the cattle plague, of the additional attraction of cattle, poultry formed no mean substitute, and proved, perhaps, one of the most popular features of the whole Show; nevertheless, many were the inducements held out to popular favour, more especially by those who exhibit implements at such agricultural meetings. All of us admit that just at this season of the year "Duck and green peas" form a very acceptable addition to our viands; nor can we resist the digression of naming to our readers a curious machine which we witnessed in full operation, by which the shelling of green peas is accomplished with a perfection and dexterity none of us could believe possible. The peas as gathered are poured out into a hopper, and simply by the rapid turning of a handle that requires a very small amount of muscular exertion, the shells are voided from between two rollers, somewhat crushed, but the peas themselves are received into a large tin receptacle quite uninjured and ready for boiling. So perfect is the whole arrangement, that on the most careful inspection not a single pea could be found that was at all bruised; and even after the most vigilant search among the shells, not a pea as large as a hampeed was found to have been passed over. A bushel of peas may thus be easily shelled in from twelve to fifteen minutes. Well might many of the bystanders exclaim, "Well, what next?"

But to the poultry especially. The Committee well deserve every credit for their arrangements, as all the poultry were exhibited on one single tier. Every possible provision was made for the safety of the birds themselves and the accommodation of the public, in case the weather should prove unfavourable. The Abbey grounds, where the Show took place, are not only extensive, but kept in a manner that reflects credit on the managers of this subscription place of recreation. That the poultry as a whole lacked that condition so all-important to such meetings is admitted as inseparable from the time of year alone, but still the principal classes were well filled with first-rate birds.

Game fowls stood first on the prize schedule, and although there was no lack of competitors, the struggle rested in every class of this variety between those great guns in Game fowls, Mr. Fletcher, of Manchester, and Mr. Mathews, of Stowmarket. The competition was necessarily close, Mr. Mathews taking three first prizes for Game, the same number of second prizes, and a third prize as well. Mr. Fletcher, with the limited entry of only four pens, took a first, second, and third prize, besides the five-guinea silver cup for the best pen of any variety of Game fowls exhibited. They were Duckwings. How so experienced an exhibitor could send his fourth pen, containing an admirable Red Pile cock with bright yellow legs, mated with a very capital hen, but rejoicing in brilliant willow legs, can only be accounted for from some error in packing, for to have thus selected them is quite out of the question. Though as single birds so good, they were, as a pair, of course simply passed over. Considering the great difficulty of exhibiting Game fowls just at this season, the Bury Show was wonderfully good. The fact is, that just prior to the annual moulting, any effort to force Game cocks into first-rate condition at once produces

the loss of feathers, and thus hastens the very trouble which owners are so scrupulous to avoid. In Grey *Dorkings*, Mr. Henry Lingwood's birds showed to great advantage, being large boney specimens, the chickens showing well, and promising to be a pen of which we shall doubtless hear more on future occasions. This gentleman took two silver five-guinea cups (one for the best general collection restricted to the county alone), chiefly by the excellence of his *Dorkings*, both Grey and White. Perhaps want of condition was more apparent in the *Cochin* classes and the *Brahmas* than in any others, many of the best birds just now being ragged as colts after a winter in a strawyard. The *Hamburghs* did not show to the advantage which they will when they have assumed their new feathers. Of *Polish* fowls only one pen was shown. The "Selling Class" was not well filled, nor could this well be otherwise, when the entry was 6s. a-pen, and the sale price restricted to 30s. So great an outlay, when the carriage is also deducted from the receipts, will always prevent a full competition. Our experience proves, that with a 5s. entry no class ever pays a Society better than a "Selling Class," though dealers in poultry repudiate its adoption as a spoil-trade. In the class for any variety of *Bantams*, a pen of "Rumpless Bantams" were exhibited, one of the hens being so very cleverly dubbed as to make what had been a flat comb assimilate pretty closely to its fellows, which were rosy-combed. The artifice was at once detected, and disqualification ensued.

We never saw a better display of *Aylesbury Ducklings*, but the *Rouens* were so thoroughly intolerable, that the prizes in the latter class were withheld *in toto*. The *Turkey* class was especially creditable throughout, not a single specimen being other than excellent.

The *Pigeon* classes are, perhaps, most justly treated by saying as little as possibly can be said against them. Blues and Blacks, Reds and Blacks exhibited in pairs, was a general fault, no attention being evidently given to matching them; nevertheless here and there was to be seen an excellent pen, but the Bury St. Edmunds Pigeon-fanciers have evidently as yet not passed their novitiate. Altogether, however, the Show was a capital one; it was very well attended, and the weather was favourable.

GAME (Black-breasted and other Reds).—First, S. Matthew, Stowmarket. Second and Third, J. Fletcher, Stoneclough, near Manchester. Highly Commended, S. Matthew.

GAME (Duckwing and other Greys).—First and Silver Cup, J. Fletcher. Second and Third, S. Matthew. Commended, S. Matthew.

GAME (White and Piles).—First and Second, S. Matthew.

DORKINGS (Coloured).—Silver Cup, First, and Second, H. Lingwood, Needham Market. Third, T. Tatham. Commended, J. Frost, Wickham Market.

DORKINGS (White).—First, Second, and Commended, H. Lingwood.

DORKINGS (Any colour).—*Chickens*.—First, H. Lingwood. Second, H. Lingwood. Highly Commended, J. Frost; H. Lingwood; F. Parlett, Chelmsford; E. Leech. Commended, Dr. Campbell, Brentwood.

COCHIN-CHINA (Buff).—Silver Cup, First, and Second, H. Lingwood. Third, Rev. C. Spencer, Attleborough. Highly Commended, Mrs. Burrell, Ipswich. Commended, H. Payne.

COCHIN-CHINA (Any other colour).—First, Rev. C. H. Lucas (White). Second, Mrs. Seamons, Hartwell, Aylesbury. *Chickens*.—First, H. Lingwood. Second, Rev. C. Spencer. Highly Commended, Rev. C. H. Lucas (White); Mrs. Burrell (Buff); Rev. M. R. Barnard (White); H. Lingwood. **BRAHMA POOTRA**.—First, J. Pickles, Bridge Royd (Dark Pencilled). Second, J. Wright (Dark). Third, Mrs. Seamons. Commended, G. H. Roberts (Dark).

SPANISH.—First, R. Wright. Second, withheld. Third, R. B. Postans, Brentwood, Essex.

HAMBURGH (Golden-pencilled).—First, A. K. Wood, Burnside, Kendal. Second, C. Havers. Third, Mrs. Burrell.

HAMBURGH (Silver-pencilled).—First, A. K. Wood. Second, withheld. Third, T. J. Saltmarsh, Chelmsford.

HAMBURGH (Golden-spangled).—First, A. K. Wood. Second, J. Wright, Woodbridge.

HAMBURGH (Silver-spangled).—First, A. K. Wood. Second, Rev. F. Tearle. Third, Mrs. Burrell.

POLISH (Any variety).—Second, Mrs. Burrell (Silver-spangled). First, withheld.

BANTAMS (Game).—First, R. B. Postans. Second and Third, G. Manning, Springfield.

BANTAMS (Any other variety).—First and Second, Rev. F. Tearle (White, clean-legged). Third, withheld.

ANY OTHER DISTINCT VARIETY NOT NAMED.—First and Second, National Poultry Company (Limited) (La Flèche, Houdan). Highly Commended, Mrs. Burrell (Silkies). Commended, Mrs. Burrell (Black Hamburgs).

SELLING CLASS (Any variety).—First, Dr. Campbell. Second, National Poultry Company (Limited) (Crève Cœur).

SINGLE COCKS.

GAME.—First and Second, S. Matthew.

DORKINGS.—Second, H. Lingwood. Commended, Dr. Campbell; F. Parlett.

COCHIN.—First, G. Manning. Second and Commended, H. Lingwood.

SPANISH.—Prize, F. Crook.

DUCKS (Aylesbury).—First and Second, Mrs. M. Seamons. Highly Commended, Mrs. Burrell; E. Leech. Commended, Miss Shaw.

TURKEYS (Any colour).—First, W. Wright. Second, E. Leech. Highly Commended, Miss Shaw.

FIGURES.—*Carriers* (Any colour).—Prize, H. A. Oakes. Highly Commended, R. Fatter; H. A. Oakes. *Tumbler* (Any colour).—Prize, R. Fatter. *Any other Variety*.—Prize, National Poultry Company (Limited) (Runts).

The Silver Cup value £5 for the best collection of Poultry, exhibited by a resident of the county, was awarded to Mr. H. Lingwood, of Needham Market.

Edward Hewitt, Esq., of Eden Cottage, Sparkbrook, officiated as Judge.

LOST SWARM RECOVERED NEXT DAY.

Is there any account on record of a swarm remaining suspended in the open air during a night? On the 21st of June I missed a swarm from one of my hives, and did not discover its whereabouts until 7.30 a.m. next day. I found it suspended from the branch of an apple tree in my neighbour's garden in a perfectly quiescent state. A considerable amount of rain had fallen during the night, which may account for the very torpid state the bees assumed. They were soon hived, and are now working well.—C. F. W., Forest Hill, Oxon.

[Bees have not only remained suspended from a branch during the night, but have even been known to build comb in such a position.]

BEEES SWARMING IN A CHIMNEY.

A few days ago I had a very fine first swarm from one of my hives. The bees settled upon a bush near the hive, where several previous swarms had located themselves. Some delay occurred in hiving the swarm, owing to a difficulty in procuring a hive, and in the meantime the precaution of covering the bush with a white cloth was, unfortunately, neglected. Before the swarm could be secured, the scorching rays of the sun drove the bees from the bush, and they took refuge in a lofty chimney at some considerable distance from my house. Ladders were procured, and the bees were found clustered under a narrow ledge in a corner of the chimney-pot. A hive, duly sweetened inside with honey, was placed on the top of the pot, and covered with a cloth tied round the pot, so that no bees could escape. In the morning we found that not a bee had ascended into the hive, and the swarm remained fixed in its former situation. Hoping that it might go up during the day we left the hive on the top of the chimney, opening the mouth, and placing a narrow board for the bees to enter and go out from the hive. At night, however, matters remained *in statu quo*, and we resolved to try to force the bees out of the chimney. We accordingly fired pistols, burned brown paper, and adopted other expedients of the same nature, but with no other result than to bring down a few stragglers on to the hearth. At last we lowered a square tin from the top of the chimney-pot, and gently brushed the bees into it, then drew it up, and emptied the bees into the hive. Having cleared all the bees out of the chimney, and put a bunch of nettles in the place occupied by them, we left the hive on the roof near the chimney to collect the stragglers, intending to remove it on the following day. Next morning there were a good many bees in the hive, but when we came to remove it at night not one was to be found either in the hive or in the chimney. Digusted with the treatment they had received they had migrated, and nothing has been heard of them since. Will you kindly tell me whether you can suggest any other means than those which were adopted to remove the swarm from the chimney? I should mention that a piece of comb, more than 6 inches square, was made by the bees during the day they inhabited the chimney.—F., Westmoreland.

[Active measure should have been resorted to at once instead of being deferred until the next day, and we know of none that promise better results than those successfully resorted to by "Squir" in a similar emergency, and which were thus described by him in page 82 of our ninth volume:—"A rope with a light weight attached was let down very gently from the top of the flue in which the bees had settled, and when this made its appearance at the bottom of the chimney, a bundle of fresh grass, well damped and as nearly as possible the size of the flue, was attached to it, and the whole was then drawn gently to the top of the chimney, upon which an empty hive had been already properly placed; into this the bees at once ascended, and were removed to their destination without further difficulty."]

SPARROWS EATING BEES—DRIVING—SWARMS RETURNING.

Your correspondent "A BLACKHEATH'N," writes, June 26th, that he has been troubled this year with sparrows feeding their young with the bees. The same proceeding has come under my notice this year, having observed it upwards of six weeks at my own hives. The sparrows having their nest in the roof of the house, I have no chance of destroying their nests.

Around this neighbourhood there are many bees kept, but I cannot hear of any one else having to complain of the sparrows. My employer has a dozen hives, and I have watched to see if their bees get picked up, but I have never seen them thus attacked, nor were mine until this year.

My practice in driving bees is, after the bees have been driven in the autumn, to unite them to other stocks, but I kept one stock in a hive by itself, feeding it liberally through the winter last year, and it will well repay me for my trouble, it being now a strong colony, with bees hanging out at the hive, when I put on a small super and found the hive very heavy.

The syrup I fed them with was made from 12 lbs. of sugar without any honey in it.

Around here cottagers are still very fond of the match or sulphur, and my employer kindly allowed me to go and drive several hives for parties around here, to introduce the system of driving instead of destroying; but I find most of them did not live through the winter, which I attribute to their not being well and liberally fed.

Swarms have been very late around here, and many have returned to their hives again after being hived. One of mine has been hived twice and returned both times. A neighbour's did the same, but stayed the third time. Our rector had one which swarmed, went back, and stayed the second time. He had another the other day, and they have not come out again as yet.—M., Sheldon, near Birmingham.

SUPERIORITY OF THE LIGURIAN BEE.

THE readers of "our Journal" will, I think, be interested in what I am doing with my new apian friends the Ligurians. I am endeavouring to test their qualities by a simple *experimentum crucis*, by the adoption of the old straw-hive system, pure and genuine, and of course my experiments in this direction, *in omnibus ceteris paribus*, will settle certain criteria more satisfactorily than the more scientific mode of propagation by artificial swarming. I am hiving them, then, this season, by the old method: stowing away the swarms as they make their appearance, and am brought to these conclusions:—

1st, As regards the localities which they select for swarming, I see no difference in any respect whatever between the Ligurian and common black bees. All mine have alighted favourably for hiving, and that not more than a few yards from their domiciles.

2nd, As regards their comparative good nature, my conclusions are that they are far more energetic and irascible in defending their queen than are common bees, and without a bee dress and strong gloves it would be, in nine cases out of ten, absolutely dangerous to attempt to hive them, if not impossible. When in their hives I do not perceive that they are less harmless than their less aristocratic *confrères*.

3rd, They are prolific to a degree, and with a rapidity which is perfectly astonishing, as the following results will show. I began the present season with six Ligurian stocks, I think pure:—

1st, Swarmed May 27th, and threw out a large swarm of cast and colt. June 8th.

2nd, Swarmed June 3rd; cast June 15th. I expect every moment a third swarm from this.

3rd, Swarmed also June 3rd; cast June 19th; colt. June 21st.

4th, Swarmed June 8th; cast June 19th; colt. June 21st.

5th, Swarmed June 9th; cast June 20th; colt. June 22nd.

6th, Swarmed June 23rd. This was my best and strongest stock, but it had a large box beneath the hive, which accounts for its being last.

Besides this, I have had two maiden swarms, and expect another to-day (June 26th). The first maiden swarm came after having been hived twenty days; the second in twenty-nine days. This surely shows that the Ligurians are as active as they are prolific.

4th, This proves also that the old system cannot be adopted with Ligurians without doubling at least the size of their hives. To make my experiments absolutely and fairly comparative, I used hives of the usual kind, in common use in my neighbourhood. I daresay some will smile and think this a bungling system of experimentation; but at all events I have got some facts worth having. About the honey harvest I cannot speak with any certainty; but when I ponder on their multiplication I cannot help thinking of "poor curates" with large families and no prospect of preferment. *Nous verrons*. I began

the season with six hives. I have already, with these, twenty-three! and have capped at least half-a-dozen more!!—WILLIAM LAW, Marston Trussell Rectory, Theddingworth, Rugby.

P.S.—Since the above was written I have had another second swarm, and unless I had taken means to prevent it, should have had on Saturday last (30th June), two more maiden swarms, and one of these from a cast, which came out on 8th of June. The account of the Ligurian department of my apiary, therefore stands thus:—I began with six hives; I have now in full work, and with every prospect of making good stocks, twenty-three hives, and had I not prevented two from swarming, should have had twenty-five! All this is the result simply of natural swarming, in which I have allowed the bees to follow their own instincts. My experiments have been carried out on the fairest principles I could adopt, and are strictly comparative. I had no other object than simply to ascertain for myself, and in my own way, whether the Ligurian bee is really so superior to the common species as it has been described to be, and I have no hesitation in saying that the result is that I am so thoroughly convinced of their superiority in every way, that I mean to keep no others.

[It may not be amiss to add that the above extraordinary results have actually been achieved by *two* stocks which left my apiary, one in the autumn of 1864, and the other during the spring of 1865.—A DEVONSHIRE BEE-KEEPER.]

SECOND SWARMS—TAKING HONEY FROM SUPERS—LIGURIANS.

BEING as yet but a novice in the management of bees, I am anxious for information under the following circumstances. I began this season with three good strong stock hives:—

No. 1 is rather a small common straw hive, and it gave me on the 26th of May a very fine swarm.

No. 2 is also very strong, and in a large wooden hive, having externally nearly the same appearance as Tegetmeier's hive, as figured at page 13 of "Bee-keeping for the Many," but arranged inside in the following manner:—The bottom or main part of the hive is 18½ inches square inside by 11 inches deep, fitted with eight bars from front to back of the hive, and which, unfortunately, are fixed, and prevent my obtaining artificial swarms. Above the bars half-inch strips of wood are fixed, dividing the top into four equal squares, into which fit four six-inch square moveable boxes or supers; by placing thin sheets of zinc or glass under the supers, communication with the hive is cut off, and it can again be restored at pleasure to any one or all of the supers by drawing out the sheets of zinc or glass. From the half-inch spaces between the bars affording such free access to the supers I never have the least trouble in the bees taking to them. I may add that the two sides of the bottom or main part of the hive are furnished with a window about 5 inches square and covered with a sliding shutter; the supers also have each a small window about 3 inches square, which is very convenient for ascertaining the state of the supers, and also, in my case, adds very greatly to the pleasure I have in watching the progress and rejoicing in the prosperity of my industrious little favourites. A moveable casing of half-inch wood forms the roof and covers the supers, and in winter I keep it neatly and warmly thatched with hay and straw down to below the floor-board, my object being to encourage early breeding.

This hive, No. 2, sent off a very strong swarm on June 6th, and at the present time has the four supers well filled with honey, and also a good quantity in the bottom or main part of the hive.

No. 3 is a large-sized straw hive, and very strong (it is a swarm from No. 1 of last year, and came off on May 19th). This year No. 3 has given me, June 3rd, a strong swarm which came off by 9 o'clock A.M.

Now as I have been anxious to increase the number of my hives, I have expected second swarms from each, being so strong, in about from nine to fourteen days from first swarms, but up to this date I have had none, although for the last four or five days each of the three hives has clustered outside *en masse*, quite equal to anything I have seen preceding first swarms, the inside of the hives also appearing much disturbed, but as yet I have failed to hear the cry of a queen in any of the three. The maximum temperature here in the shade has been during the last eight days as follows:—June 21st, 70°, 67°, 78°, 83°, 87°, 91°, 76°, and to-day, June 28th, 76°. This

evening very few bees are clustered outside of either No. 1 or 8, but all are still unusually noisy.

I am afraid that I have trespassed too much upon your space, but perhaps others also may be benefited by the information I seek upon the following points:—

First, am I still likely to have second swarms, and, if before the 7th of July, can I, by the help of a good season and judicious feeding, hope to bring them safely through the winter?

Second, when I take the honey from the supers in No. 2 should I allow communication to the supers during the winter; also, what is your opinion of my No. 2 hive?

Third, as I have been lately informed that the Ligurian bee has been introduced into this district (the north of Ireland), and are reported very favourably of, might I be able to preserve an artificial swarm obtained—say at least before the middle of July, and what would be a fair value for a swarm of Ligurians? I may add that I have this season put my swarms into hives that allow of supering in future.—ALBAN GOODMAN.

[Second swarms are not likely to issue after so long an interval, but, should they do so, their probable preservation through the winter is only a question of a few pounds of sugar judiciously administered. When a swarm issues early in the morning we always suspect its being the second, and fear, therefore, that the prime swarm from No. 8 may have escaped you. Communication with supers should be closed during winter. Your hive No. 2 is not one that we should prefer. Mr. Woodbury, of Mount Radford, Exeter, sent the Ligurians to Ireland, and you had therefore better write to him direct for information concerning them.]

BEES DESERTING THEIR HIVES—ARTIFICIAL SWARMS.

SOME extraordinary instances of bees deserting their hives have come to my knowledge this season, and I am quite unable to account for the great difference observable in the conduct of bees at different times under similar circumstances. A cottager lost his only hive last autumn; the bees gradually dwindling down to zero. The hive had swarmed, and the young queen was probably lost on her trip, or killed on her return by her own subjects. The hive was, however, filled with comb, and well stored with honey, and I told the owner that I would stock it with bees if he sent it up to my house. About three weeks ago I introduced a good second swarm into the hive, and kept them in my own garden for about a fortnight, that the young queen might stand a chance of mating with one of my drones; I then allowed the cottager to take the hive home in the evening. The following day the bees came out *en masse*, and after being hived five or six times in an empty hive, ultimately went off altogether, and were lost. The hive contained a good deal of brood, proving that the queen was all right; yet these bees, either with or without a queen, (as she might, though it is improbable, have been killed in the removal), completely abandoned their hive, though it was well furnished with both brood and honey.

Again: another bee-keeper hived a prime swarm on the 2nd of last month (June), the bees filled the hive with comb and honey, and it also contained brood, yet they completely deserted the hive on one of the last days, leaving their brood and stores behind.

The great heat is the only cause I can assign for such extraordinary proceedings. On the other hand, I have several times had queenless stocks which have guarded their stores and retained possession of their hives until the bees have nearly all died off from old age.

In forming swarms by driving it is no doubt a great advantage to employ two stocks; but I have been perfectly successful, both this season and on former occasions, with only one hive. Two-thirds, perhaps, of the bees were driven into an empty hive at seven o'clock in the morning of a fine day, the stock was replaced upon its old stand, and the swarm, after it had been a short time in the empty hive, was knocked out *en masse*, and induced to enter a unicombed hive in a different part of the same garden, and nearly all the driven bees stuck to their queen in the new domicile. I have made second swarms in the same way, and find the driven bees adhere to their new quarters nearly or quite as well as a natural swarm.—J. E. B.

[The satisfactory adherence of the artificial swarm to its new domicile was probably owing to the bees having been compelled

to run into it, a hint which was given some time ago by our valued correspondent "R. S.," touching the removal of stocks to short distances, and which, it appears, may also be very useful in the formation of artificial swarms.]

OUR LETTER BOX.

FEEDING POULTRY (J. L.).—The result would seem to prove your system is not far wrong; and the falling off in the last few days may be accounted for by the change in the weather, constant damp, and absence of sun. These most affect the youngest, and they are the sufferers. We will give you our free opinion of the dietary. Some years since we tried the Mark Lane sweepings, but did not think they answered: there is too much dirt in them, and the corn, with the exception of the maize, was of the thinnest description. We approve the oatmeal, but would rather give whole corn than coarse middlings. Everything seems provided that can be necessary for poultry. Your adults and forward chickens, with a grass run and farmyard, want no pampering, but it is impossible to feed young chickens too well. To enable you to "do" them as they require, it is well to remove them with the hens from the immediate neighbourhood of the old and older birds. A dry sheltered spot for the hen, and a newly mown grass run for the chickens, are desirable. When chickens are falling, cooked meat chopped very fine is desirable food.

CRESTS OF BLACK POLANDS (E. Westmoreland).—The crest of your chickens will come white, except just in front, if they are pure bred. We could speak more positively if you had named their age.

CHICKENS DYING (W. S. P.).—The "attempt to swallow," that you mention is generally the result of a disease called the "gape," and is caused by the presence of worms in the windpipe. The birds gape in the vain effort to get rid of the intruders. From their position they are hard to get at. There are divers cures and operations, but wherever the disease appears some chickens always die. A hen's tail feather stripped within an inch of its extremity and dipped in turpentine, put down the windpipe, not the gullet, until it reaches the worms, kills them, and the operation causes the bird to sneeze and throw them up. The operation is a nice one, as a mistake is often made, and the feather put down the gullet, which is useless. The best remedy we know is to give camphor freely in pills about the size of a pea, and to give water strongly impregnated with it, in fact, what our grandmothers used to call "camphor julep." After a time the whole body of the bird is imbued with camphor, and it kills the worms. It is thought, and we agree with it, that these parasites are gained by drinking bad water. All fowls prefer drinking from a puddle of dirty rain water to any vessel of clean spring water. The opportunity should not, therefore, be afforded to them. Old birds do not catch this disease. Chickens recover if they can outlive the worms; but as they never do so unassisted, it is well to feed liberally on bread and ale in order to keep them up. There has, however, been a disorder among chickens which has caused blindness and death in a few hours, the eyes being closed by a thick gum. We have watched it closely, and it is not akin to roup. It is, however, very fatal; but if taken early and treated with beer and camphor, two-thirds of those attacked recover.

DUCKS WHERE WATER IS DEFICIENT (Commerciat).—Rouen Ducks are, we believe, the best to suit you. Aylesburys are preferable if you have hens under which to put the eggs, as they are no-sitters, as they lay very many eggs, and fatten easily. Rouen and Aylesbury are the desirable breeds on account of their size.

INFLAMED VENT IN CHICKENS (J. A. C.).—We have seen no cases of epidemic vent as you mention. Redness and inflammation of the vent almost always arise from a disordered stomach, when the evacuations get slimy and sticky, and part always adheres to the vent, causing pain and inflammation. Feed and besmeal will cause this, and when the vent gets entirely closed, death soon follows, every evacuation helps to close the vent, just as each piece of mud helps to form a swallow's nest. As it is impossible to treat a whole yard as you would a few cases, we advise such food as would be likely to meet the case—ground oats mixed slack, and given three times per day in moderate quantities, and as much lettuce as you can give. The latter is the cure for it, and if the lettuce have gone to seed and stalk so much the better. We know no more valuable poultry medicine than this last.

HENS DISORDERED (J. E.).—They are evidently very much out of order, digestion impaired and egg-organs inflamed. Give each a dessert-spoonful of castor oil; feed on soft food only—mashed potatoes with a little oatmeal added, and abundance of lettuce leaves. Let them have a heap of coal ashes and limy rubbish to bask in.

INCUBATORS (J. A. C.).—If properly managed any one of those advertised will hatch the eggs placed in it. The difficulty begins as soon as the chickens are produced. Hatching is easier than rearing.

STRENGTHENING A LIGURIAN STOCK (A. T., Jersey).—Combs of common brood added to a Ligurian stock strengthen the colony, and although the bees thus produced will not turn to Ligurians they will, owing to the brief life of worker bees at this season, rapidly disappear without leaving any permanent stain on the purity of the Italians.

PREVENTING SWARMING (D. R., Rockdale).—Withdrawing slides and thereby giving access to glasses cannot always be relied upon to prevent swarming. The rise of temperature in the interior of a hive prior to swarming is probably owing to the crowded state of its population.

VALUE OF SECOND SWARMS (D. Rose).—A second swarm is not considered so good as the first, nor is it so likely to survive the winter. The price of swarms varies so much in different localities that it is difficult to offer an opinion, but we have often purchased good first swarms for the sum you mention.

TRANSFERRING ARTIFICIAL SWARM FROM A NUCLEUS BOX TO A WOODBURY HIVE (A. E.).—An artificial swarm formed in a nucleus box on the 31st of May, may now be shifted into a full-sized hive, but it is well first to ascertain that it possesses a fertile queen. We find the average time for the production of a queen to be fourteen days from the formation of an artificial swarm, and a similar period usually elapses before she commences egg-laying.

JAMES PHILLIPS & CO., HORTICULTURAL GLASS MERCHANTS, 180, BISHOPSGATE STREET, WITHOUT, LONDON.

IN submitting Drawings and Prices of Flower Baskets, we beg to say they are made of Fine Clay, well finished, and suited for the Sitting-room as well as the Garden.

No. 1.



FLOWER BASKETS.

	Each—s. d.
8 inches diameter	2 0
9	2 3
10	2 6
11	2 9
12	3 0
13	3 3
14	3 9
15	4 6
16	5 0
17	5 6
18	6 3
19	7 6
20	8 6
21	10 0



FERN CASES.

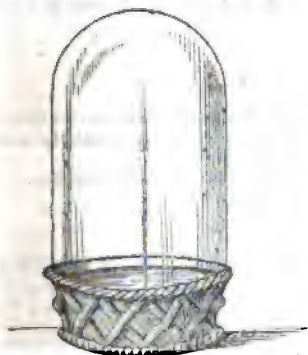
	£ s. d.
13 inches long	1 0 0
14	1 3 0
16	1 6 0
18	1 10 0
20	1 14 0
22	1 18 0
24	2 2 0
26	2 10 0
28	3 0 0
30	3 10 0

BEST ROUND AQUARIA.
With Ebony Stands.

	Each—s. d.
12 inches diameter	5 0
13	6 0
14	8 0
15	9 6
16	10 0
17	12 0
18	13 0
19	14 0
20	15 0

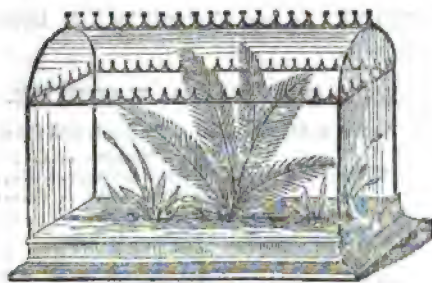
ZINC AQUARIA.

	£ s. d.
13 inches long	0 18 0
14	1 1 0
16	1 4 0
18	1 7 0
20	1 10 0
24	1 16 0



GLASS FERN SHADES AND STANDS.

	Glass Fern Shades. s. d.	Clay Stands. s. d.	Glass Stands. s. d.
6 inches	1 4	1 6	1 0
7	1 8	1 6	1 3
8	2 0	1 9	1 6
9	2 6	2 0	1 9
10	3 3	2 3	2 0
11	4 0	2 6	2 6
12	5 6	2 9	3 0
13	7 6	3 0	3 6
14	10 0	3 3	4 0
15	14 0	3 6	4 6
16	18 6	3 9	5 0



FERN CASES.

With Circular Tops, 3s. extra on above prices.

AQUARIUMS of various Shapes and
Dimensions.

HYACINTH AND FLOWER DISHES.

	Each—s. d.
6 inches diameter	1 0
9	1 6
12	2 6

Hyacinth Dishes are a new article, intended to contain a number of roots bedded in sand and covered with moss, instead of the common Hyacinth Glass.



No. 2.

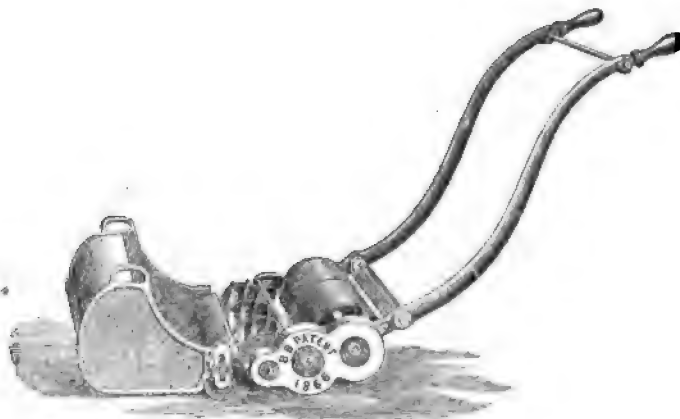
FLOWER BASKETS.

	Each—s. d.
7 inch	1 6
8	1 9
9	2 0
10	2 3
11	2 6
12	2 9
13	3 0
14	3 3
15	3 6
16	3 9
17	4 0
18	4 6
19	5 0
20	5 6

Glass Shades for Ornaments, Propagating Glasses, Milk Pans, Cucumber Tubes, Glass for Horticultural Purposes, Paints of all Shades, and various Miscellaneous Articles, see separate Lists.

J. B. BROWN & CO.'S NEW PATENT B B LAWN MOWER.

PATENTEES
AND
SOLE MANUFACTURERS
J. B. BROWN & CO.,
148,
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GUARANTEED TO
GIVE PERFECT
SATISFACTION,
AND IF NOT
APPROVED OF MAY
BE AT ONCE
RETURNED.

J. B. BROWN AND CO. have pleasure in mentioning that their B B LAWN MOWER ordered for the Gardens of Windsor Castle has given so much satisfaction, that another B B MACHINE of a larger size (a 24-inch Machine) has just been ordered. A second B B Machine this season (a 24-inch) has also been just supplied, by order, for the Gardens of His Royal Highness, the Prince of Wales, at Sandringham.—June 26th.

The Machine combines all the latest improvements in Lawn Mowing Machines, being simple in construction, very light, silent in movement, easily worked, and so strong and durable as to be literally unbreakable,—an all-important feature in Machines of this class; the ordinary cast iron being entirely done away with, and malleable iron substituted, in all breakable parts, and every part being numbered, and accurately made to standard gauges. The workmanship and finish are also of a superior character; the entire Machine being quite equal to a revolution, so to speak, in Lawn Mowers. The Machines are all guaranteed to give perfect satisfaction in every respect.

The NEW B B PATENT LAWN MOWER is manufactured by J. B. BROWN & CO., on their own premises in London, under their personal superintendence.

PATENT B B HAND MACHINE.

PRICES—Including Carriage to any Railway Station or Shipping Port in England, with the necessary Tools and Directions for use.

10-inch Machine.....	£3 10 0	} Easily Worked by a Boy.	18-inch Machine.....	£7 10 0	} Easily Worked by a Man.	
12-inch Machine.....	4 10 0		20-inch Machine.....	8 0 0		
14-inch Machine.....	5 10 0		22-inch Machine.....	8 10 0		
16-inch Machine.....	6 10 0	} Ditto by a Man.		24-inch Machine.....	9 0 0	} Ditto by Two Men.

If with Brass mounted Grass Box, 5s. extra.

PATENT B B HORSE MACHINE.

PRICES—Complete, without extras, including Carriage to any Railway Station or Shipping Port in England, with the necessary Tools and Directions for use.

48-inch Machine	£32 10 0	} Drawn by a Horse.
42-inch Machine	28 10 0	
36-inch Machine	24 10 0	
30-inch Machine	21 10 0	} By a Horse or Strong Pony.

PATENT B B PONY and DONKEY MACHINE.

PRICES—Complete, without extras, including Carriage to any Railway Station or Shipping Port in England, with the necessary Tools and Directions for use.

30-inch Machine	£17 10 0	} Drawn by a Pony.
28-inch Machine	16 10 0	
26-inch Machine	14 10 0	} Drawn by a Donkey.

New Improved Horse, Pony, and Donkey Boots, wholly of Leather, as follows:—Horse Boots, 24s.; Pony Boots, 21s.; Donkey Boots, 16s. per set.

. Every Machine sent out is warranted to give ample satisfaction, and, if not approved of, may be at once returned.

The NEW PATENT B B LAWN MOWER has already been patronised by Her Majesty the QUEEN, for the Royal Gardens at Windsor Castle, Osborne, and Hampton Court; by His Royal Highness the PRINCE OF WALES, for Sandringham; and by His Grace the Duke of Somerset, the Right Hon. the Earl of DENBY, the Right Hon. the Earl of CHARLEMONT, and numbers of the principal Nobility and chief Landed Proprietors in the Kingdom.

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Opposite the City of London Brewery, and close to the London Bridge Steamboat Piers.

WEEKLY CALENDAR.

Day of Month.	Day of Week.	JULY 17—23, 1886.	Average Temperature near London.			Rain in last 50 years.	Sun Rises.		Sun Sets.	Moon Rises.		Moon Sets.	Moon's Age.	Clock before Sun.		Day of Year.
			Day.	Night.	Mean.		m.	h.		m.	h.			m.	s.	
17	Tu	<i>Alomia ageratoides.</i>	76.1	51.3	63.7	14	4	4	7	48	23	10	5	5	49	198
18	W	<i>Aloma obtusa.</i>	74.8	50.2	62.5	18	5	4	6	8	27	11	6	5	54	199
19	Th	<i>Aloma rostrata.</i>	78.3	50.6	61.9	21	7	4	5	8	after.	15	11	5	58	200
20	F	<i>Kalosanthos.</i>	72.9	50.5	61.7	23	8	4	4	8	34	1	8	6	2	201
21	S	Sun's declination 20° 29' N.	78.4	50.6	62.0	18	9	4	3	8	35	2	9	6	5	202
22	Su	8 SUNDAY AFTER TRINITY.	78.3	51.5	62.3	23	11	4	2	8	33	3	10	6	8	203
23	M	<i>Amellus lychnitis.</i>	74.0	51.9	63.0	19	12	4	0	8	30	4	11	6	10	204

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 78.9°; and its night temperature 50.9°. The greatest heat was 94°, on the 17th, 1834; and the lowest cold 32°, on the 23rd, 1863. The greatest fall of rain was 1.87 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

SAND FOR CULTURAL PURPOSES.



ALTHOUGH simple, and to be met with almost everywhere, yet few things are either less understood or so disregarded as sand—that indispensable adjunct to the

compost-ground and potting-bench.

Sand, with scarcely an exception, is a necessary ingredient in every mixture, and whatever the class of plant operated with, and whether it is dissected for the purpose of obtaining an increased number of subjects, or it is only treated to a larger share of the good things of this world to enable it to expand itself into larger dimensions, sand seems as necessary a material to help out either of these works as mother earth herself; and in giving directions as to the mixtures best adapted to the wants of each plant, sand is sure to be one of the ingredients. Let us, therefore, see what is the action of sand on the soils we deal with, and reason from that whether much of the material called sand is not improperly used. At all events, let us determine what ought to be understood by the term sand as used in horticulture, the mode of employing this substance, and other matters bearing on the subject.

In the first place it will be generally admitted that sand forms a component part in all soils; even the stiffest clays are not without a trace of it, but its presence in some other descriptions of soil is more apparent, and the term sandy soil is applied, perhaps, to a soil that contains a large percentage of that material, which soil nevertheless differs widely from another that contains quite as much sand, the difference in the sand constituting in fact the difference in the character of the two soils. Let the traveller take a stroll along the seashore on some of the coasts that are characterised as sandy, and he will see abundance of a material that has by the action of time and a little mixture of other ingredients formed itself into a sort of natural embankment, repelling the waves of the ocean, and becoming a fitting receptacle for the roots of maritime herbage. The sand has been so often steeped in salt water that, for a time at least, it seems to be so charged with salt as to be unfit for some of the purposes for which sand is used, as the making of mortar; and in horticulture those for which it can be employed are few. It is "sand," however, and when that term is used an inexperienced person might possibly suppose that any kind would do, and that existing in some places in great abundance might be used when it would be hurtful. Sands of other kinds are also to be had in more or less abundance, and some of these having a wide reputation are, perhaps, more likely to do harm than sea sand, whose saline qualities being known is received with caution by the great bulk of horticulturists.

Sand from the banks of rivers has certainly many advantages over that from the side of the ocean, if such rivers are not tidal ones, and the stream of water is free from all noxious qualities. I am rather disposed at all times to give the preference to river sand over all others, as being more free from mineral matters; and its exposure to the atmosphere, when it has been lying some time on the side of the banks, sweetens it and fits it better for vegetation than sand taken from a pit or cutting. Possibly some very exact and expert propagator of *Epacris*, *Boronia*, and other hardwooded plants may find fault with its being too coarse for his use, because his tiny little cuttings cannot be properly fixed in it, and a finer and closer-grained material has to be obtained; but for mixing with the ordinary soils of the potting-bench river sand will generally be found preferable to any other, as well as for mixing more largely still in the open ground when it can be had in sufficient abundance.

Next in importance to sand obtained from the sides or channels of running streams is the kind not unusually called drift sand, which is to be had by the sides of roads composed of stones grinding into an open sand, which, however, all road stones do not. On the contrary, some of them furnish a kind of mud, which hardens into the consistency of cement, and is of course inadmissible for purposes where sand is wanted. By the sides of some roads, however, and in districts where sand forms an important ingredient in the composition of the soil, the heavy rains, washing the more muddy and soluble parts away into the valleys or ditches, carry with them a portion of the sand, and leave it not unusually midway in their course, intermixing with it, perhaps, more or less gravel and other refuse; but in ordinary rural districts, free from the taint of factories or mines, such admixtures seldom unfit this kind of sand for cultural purposes, and drift sand may be set down as being tolerably pure and suitable for horticultural use.

We now come to the class of sand most difficult to deal with, and that certainly in which the greatest mistakes are made—pit sand, which is also more extensively used than any other. Being good in appearance, handy, and abundant, it has acquired a reputation which it is questionable if it deserves as a promoter of vegetation; besides, it differs so widely in its character that it would not be prudent to pass other than a qualified opinion on its merits. Certain kinds of sand, however, have for many years had a reputation for cultural purposes which it is almost treason to assail. Many years ago, when it was very common, as indeed it still is, to admire things most that came from a distance, Calais sand had the reputation of being the best, although it seems to be less plentiful there than at Boulogne; eventually, however, it was found out that there was plenty of good sand in England, and Reigate sand was in most request. This sand has all the properties likely to captivate buyers, being pure white in colour, and sufficiently open to render the soils with which it is intermixed more porous, while it is fine enough to close in around a cutting that can only be inserted from a quarter to half an inch deep. Reigate sand is, therefore, in great demand, and it

is, perhaps, deserving of all the praise that has been bestowed on it when used for the class of plants for which it is suitable; but that its use can be recommended for all kinds of plants is by no means clear; on the contrary, there is every reason to believe that for some it is very improper. To make this appear more plainly, let us look at the character of the sands which form the ingredients of the soils in which the various plants cultivated in gardens flourish, and in doing so I shall presuppose that all other pit sands are only suitable to the plants for which each is fitted by its chemical constituents.

Without entering into detail as to the requirements of each class of plants, we may roughly divide these into the two classes most dissimilar in respect to the soil in which they thrive best, and preferring, the one a calcareous, the other a peaty soil. Both these classes of plants require an admixture of sand in the medium in which they grow, and in general both soils are furnished with it in greater or less amount. The sand, however, is not alike in both, that in each soil partaking to a certain extent of the other constituents of the mixture of which it forms a part; and supposing it were possible to separate the sand from the one soil and add it to the other, the result would in all probability be unsatisfactory in consequence of the antagonistic properties of the materials so mixed. Instances of this kind are sometimes met with in other branches of industry than horticulture. I remember once noticing a large heap of mortar that had lain some time, and which showed beyond the possibility of a doubt the indiscretion of mixing substances together that had no affinity. A bright yellow sand, sharp enough to entrap an unwary builder into the belief that it would make good mortar, had been mixed with lime in the usual way, and not being all wanted, a large heap lay some months, when, on its being examined, it was found that the lime was all but gone. The sand had "eaten it up," as the labourer truly enough said, and the reason was plain enough. The sand was strongly impregnated with iron, and, instead of uniting with the lime, the result was the destruction of the latter as far as the mortar was concerned. Now, it is easy to perceive that something of the kind must occur when sand of an unsuitable character forms a component part in a mixture for cultural purposes; and although neutral sands may with propriety be mixed with either calcareous or peaty soil, all sands used at the potting-bench are not neutral, like the river sand previously alluded to, and the drift sand also, though less pure perhaps. Supposing any one were tempted to use the pure white sand, which is dug in such large quantities in some neighbourhoods for the manufacture of glass, as an ingredient in a compost for growing Heaths or Rhododendrons, assuredly the result could not be satisfactory; rather let a soil containing iron be used, and the chances of a favourable result will be greater.

In advocating the use of sand charged with iron, where American plants are grown, I by no means recommend a too strong dose of it, for I have seen very fatal results follow the planting of this class of plants in a sort of bog peat, too much impregnated with that metal, but at the same time I have also seen the evil effects of a silicious sand used for the same purpose. A medium ought to be aimed at, and let the sand used for American plants be only impregnated with a little iron, but not at all so for other plants. The pleasing appearance of nice white sand is a strong inducement to use it whenever sand is wanted, and few people give themselves the trouble to find out whether it is likely to suit the purpose they put it to or not; but at the same time grey or yellow sand is equally useful, and the latter is more likely to answer in the case of a peaty soil. I would advise those who have the opportunity of using the last two, to try them for growing Heaths, and for other purposes where they are brought in contact with peaty soil, while the fine white sand so extensively employed for domestic use, may be tried with good effect among plants not requiring peat.

All sand charged with poisonous matters should be avoided; a sort of greyish sandy material is found very extensively in some mining districts, and is so poisonous that it kills all plants on which it is laid, and is often used to throw on court-yards or walks for the purpose of killing the weeds there. Such a substance, of course, should never find its way into mixtures intended for the culture of plants, and a sand, even though containing a small proportion of anything deleterious, should also be avoided.

Although sand generally serves to increase the fertility of the ground, yet where it exists in too great a proportion, it has the contrary effect. The reason of this appears to be its want

of adhesion, and the consequent too free access of air to the roots, as well as the plants having to exist on such liquid food as can be derived from external sources, and failing these they suffer, just as plants cultivated in pots must in a great measure depend on periodical waterings. Sand here becomes an important agent, as it prevents the soil clogging, and allows the superfluous water to pass off easily. This branch of the subject, however, is only mentioned here to show the utility of sand as an agent in the hands of the cultivator, and it is one to which he has hitherto not paid so much attention as it deserves.

—J. ROSSON.

STRAWBERRIES.

Owing to M. Van Houtte having facetiously dubbed me "the sole arbiter" of the fate of seedling Strawberries, of course you will expect that annually I shall say something on the subject. I must, however, though much gratified by his estimate, decline to be more than the expresser of an honest opinion. I cannot be answerable for what is put in my mouth.

My Strawberries of all kinds were removed here late in the spring from Rushton; and, considering this disadvantage, they have done well. I here found these sorts, youthful and established, and they have cropped finely—Rivers's Eliza, Trollope's Victoria, Eugénie, and Eleanor. The following sorts I brought with me:—Sir J. Paxton, Eclipse, Royal Hautbois, Rivers's Eliza, Old Pine, Scarlet Pine, Dr. Hogg, Mr. Radclyffe, John Powell, Biston Pine, Eugénie, Wonderful, Frogmore Late Pine, and Cockscorn—a famous lot of good-constituted and heavy cropping Strawberries, save one, the Old Pine. This has been erroneously said to be the same as the Scarlet Pine, which is more like the Rival Queen than any other. I fancy the latter is a seedling from the Scarlet Pine. The Scarlet Pine is a better setter than the Rival Queen, and is not subject, as the Rival Queen is, to deformed, abortive, and cancerous berries. The Scarlet Pine is the best flavoured Strawberry here, or that I have ever tasted. I obtained my Scarlet Pines from the late Mr. Nicholson, and the Old Pines from G. Sparkes, Esq., of Bromley. They are not the same Strawberry.

Before I proceed to speak of tried Strawberries, I must mention, that, allured by a touching picture, I bought late in the spring twenty plants of "The Lady" (Underhill), which I deprived of their flowers. They are growing strongly, and are commencing to run. It is of no use to crop late spring-planted Strawberries. Deprive them of their flowers and the plants will gain strength at once, run quickly, and do much better the following year. You cannot judge accurately of them till they have a large volume of perpendicular and horizontal roots. I gave 80s. and 8s. carriage for "The Lady"—a very cheap lot.

Before giving a list of Strawberries that can be recommended, let me notice new Strawberries that I have sufficiently tried.

1. Dr. Hogg (Bradley).—This is A1 in every respect. A noble dish of it was furnished by Mr. Turner, of the Royal Nurseries, Slough, for the Hole testimonial dinner.* It is in constitution a Queen, more regularly coloured. It is hardy, fine-foliaged, a heavy cropper, and has grown well in my chalky land at Rushton, and still better in my fine, sandy, deep loam here. I beg to universally recommend it.

2. Mr. Radclyffe.—Sent to me as Mr. Ingram's No. 10. This is a splendid production from the Royal Gardens, Frogmore. I must hasten to acknowledge the high compliment paid to me. I wrote to Mr. Ingram to ask what name he had determined upon. I received a kind answer saying, that by my permission he would call it Mr. Radclyffe. I beg publicly to thank him for the honour done to me. It is also in constitution a Queen, hardy, fine Queen-foliaged, a good cropper, large, and Queen-flavoured. Mr. Ingram's opinion of it is—"It is equal to the Queen in all respects, but has a better constitution." I beg to endorse this.

3. Cockscorn (Mr. Ingram).—This is a very valuable Strawberry. It is suitable for all classes. It is hardy, a fine grower, an immense cropper, of huge size, and of excellent flavour in the Queen line. No Strawberry removed here from Rushton has borne more heavily than this, and the Royal Hautbois, which is a jewel!

These three are all late Strawberries. They are sure to

* I attended the Hole testimonial dinner at Anderton's. The "tea-urn" (by Garrard & Co.), presented by the Rose growers of England, to the Rev. S. R. Hole, originator of the National Rose Show, was elegant. I can hardly say how much pleasure I felt on the occasion. Long may this, in every respect noble specimen of the human race, live to enjoy with his wife and family this graceful and well-deserved tribute.

retain their place in a good catalogue for many years, perhaps for ever.

I now give a list of honest, hardy, sure, and heavy-cropping Strawberries, from which a person may select without fear.

Early.—Sir J. Paxton and Eolipse.

Second Early.—Rivers's Eliza; Trollope's Victoria, a great favourite at dessert; Empress Eugénie, a good friend, but coarse and not highly flavoured.

Later.—Scarlet Pine and John Powell, both first-rate; Wonderful, and Bicton Pine, peculiar and valuable.

Very Late.—Frogmore Late Pine, a most noble sort; Dr. Hogg, Mr. Radclyffe, and Cockscorn.

These are a noble lot, you cannot burn your fingers. In the celestial bodies there are different glories, so it is here.

I have now only to recommend the Royal Hautbois and the old Red and White Alpines, which I began the season with, and they are cropping heavily now. I am fond of them without sugar, but with sugar and cream and a glass of sauterne or sherry, they are the best of all. Hautbois and Alpine Strawberries should be dead-ripe before picked.

If more mid-season Strawberries are wanted, perhaps Oscar and President, which I have lately tasted in my clergyman's garden (the Rev. R. Price), and thought excellent, would be good further selections.—W. F. RADCLYFFE, *Okeford Fitzpaine*.

THE ROSE GARDENS OF LYONS.

I THINK there are very few persons who, looking at Lyons for the first, or indeed for the twentieth time, would ever think of it as a place celebrated for Roses. Its rivers are broad and muddy; its new part a poor imitation of Paris; its older portion full of the most abominable stench that ever offended the nose of a poor mortal; and to one fresh from the lovely scenes of Switzerland, its glare and its treeless appearance detracted vastly from what I had heard and remembered of its greatness. It was nearly thirty years since I had visited it—when not a railway was constructed in France, when the journey to Marseilles took up the best part of a week, and when the pleasures of travelling were considerably lessened by the confinement, dirt, and dust of a diligence. I remember then it took forty-eight hours of continuous travelling to get from Paris to Châlons-sur-Saône. We did it in five. But even then I recollect Lyons did not strike me very much, yet in size and importance it is the second city in France. Although so celebrated for its silk and velvet, it does not give you the idea of a great manufacturing place. The tall smoke-emitting chimneys that are so plentiful at Manchester and in our manufacturing districts generally are not to be seen here, from the fact that the weavers work in their own houses, and that hand-looms and not machinery are employed.

Where, one would ask, can the Rose gardens be? Where are the lovely spots where *Senateur Vaise*, *Charles Lefebvre*, *Madame Faloot*, and a host of the (Rose) world's most celebrated characters saw the light? Where are the lovely nymphs that watched these nascent beauties, where the chivalrous knights who proclaimed their peerlessness against all comers, in what shady vale was their education carried out, I could not for the life of me imagine. There is a wonderful deal of "boah" talked about the sunny south, and persons imagine that the south of France must be the most charming place imaginable. When that "vile north-easter" blows right through one—when catarrhs are the rage, and gruel and hot water in request—then one may draw a deep sigh, and wish he were in the "sunny south." But there is a reverse to the medal. Go there now, and what a different tale you would have to tell. It is warm enough here, even though there is a gentle breeze coming in from the Downs; but there they have perhaps the "mistral" blowing hot and scorching from the south. Not a Rose is to be seen; they are all *abimé* with the fierce heat of a few days. You must try and sit with every window and door closed, for the admission of air is only letting in the atmosphere of a furnace. All this is unfavourable, one would say, to Rose-growing; but what about the soil?—this must be cool and deep. No such thing. What I saw was hot and scorching enough, full of stones, and very unsuitable for the growth of the queen of flowers; and yet we do know that from this place have come some of the very best of our Roses; and the names of *Lacharme*, *Guillot père et fils*, *Ducher*, *Liahaud*, *Damaizin*, *Goned*, &c., who are inhabitants of Lyons, testify to the truth of this. In fact, those very conditions which are adverse to the growth of the Rose are favourable to the pro-

duction of new varieties. They have not to complain, as we too often have, of cold and wet summers, of seeds rotting in their heaps, and of expectations doomed to disappointment. The seed sets early and ripens rapidly, and this is more especially the case when the Roses are planted against a wall with a south aspect. Hence they are able to excel us in the raising of seedlings, especially amongst the *Teas* and *Noisettes*; although I have no hesitation in saying that we excel them in the growth of our trees, and in the size and quality of our blooms.

The chief object that I had in visiting Lyons was to find out the truthfulness of the statement made to me last autumn by *Lacharme*—that he had a *Perpetual Rose* of a "true yellow" colour. I felt quite confident, that if it were true it was such a step as we had not of late years seen, and that, as I had been appealed to about it, it would be most desirable to obtain correct information. While I was hesitating about extending my journey from Paris to Lyons, I was solicited by one of our most eminent introducers of novelties, Mr. Bull, of Chelsea, to report on it, and whatever information I am able to give on the point rosarians are indebted to him for it.

Despairing of finding my way to *Lacharme's*, which I knew to be some distance off, and knowing from experience that names well known to us may be little known even in their immediate localities, I secured the services of a "cocher," and, after various inquiries, found far down on the banks of the river, and hard by one of the numerous forts with which Lyons is encircled, the place I was in quest of. It was an unpretending-looking house, and the garden gave no indication of the greatness that was due to it; neatness certainly was not its characteristic. *Lacharme* was in one of his other gardens, and I had to wait some little time before he made his appearance; when he did he struck me at once as an honest and sensible man. We sat down and had a little chat together; I found there was some kind of embarrassment about him when I told him that I had come to Lyons on purpose to see his yellow Hybrid *Perpetual*, and I began to fear there was some screw loose. I would here remark that the French Rose-growers do not quite understand our taste for yellow Roses, they do not themselves seem to think much about them, and also do not see why we do not admire their "*ardoise*" flowers, that indescribable slaty colour appearing to have great charms for them; and hence the advent of a genuine yellow *Perpetual* would not seem to them so great a feat, but that there is connected with it the commercial gain of a flower that would be sure to sell well in England, England being their chief market at all times, and now more especially, when this awful and wretched war is desolating Germany, where they have been in the habit of supplying many orders every year.

We walked on through his grounds, which were singularly untidy, across to another garden, where, on a wall facing the south, he has a large quantity of *Teas* and *Noisettes* planted, and where he has matured most of the seed from whence he has raised the Roses which have made his name famous. We talked of and saw many of these Roses as we walked along, but still I did not see the yellow *Perpetual*. I saw *Alfred Colomb*, which I did not hesitate last year to pronounce, from the blooms I saw of it, to be a fine Rose, and which both here and in my own garden has merited the praise I gave it. *Souvenir de Dr. Jamain* is also dark and rich in colour, but I am afraid too small to suit our taste; the petals are thick and firm, but there are too few of them; while *Prudence Bresson*, a great flaunting flower, with petals of immense size and brilliancy of colour, is more like a semi-double *Pæony* than a Rose. Its effect seen at a distance is very striking, but it will not do for us. *Charles Lefebvre* and *Souvenir de la Malmaison* were there in quantities, but the blooms were certainly not so fine as I have seen them in England. At last we came to where the yellow Rose was said to be, and great was my disappointment, and, I believe, honestly that of *Lacharme* himself. The truth is, he has been the raiser of many Hybrid *Noisettes*, such as *Louise Darzens*, *Charles Maynard*, *Madame Gustave Bonnet*, &c., and that it is in this class, which are not really Hybrid *Perpetuals*, that he believed he had obtained what he announced. I saw the plant not absolutely in flower, but with the buds partly open, and it has no pretensions to being a yellow Rose. It came last year with a good deal of yellow in it, and *Lacharme* was in hopes that this would be permanent. But alas! this year it has only shown a very faint tinge of yellow in the centre of the flower—*un peu jaunâtre*, and it will not be sent out as a yellow Rose. I am not at all sure that it may not be the *avant-coureur* of a yellow Rose; but even then, if of this class,

it would hardly be worth much, as they all partake too closely of the Noisette character to be really valuable to us. White Roses are scarce; but we want something larger, of better form, and harder constitution than those which I have already mentioned.

I believe Lacharme has had to stand a good deal of chaffing about his yellow Rose, but I for one acquit him of all desire to "do" us, and believe it is one of those disappointments to which the raiser of seedlings is subjected. How often have I seen at my neighbour and friend, Mr. Banks's, seedling Fuchsias of the most promising character, but of which, when I asked the following year, I was told they turned out valueless; and so it is with the Rose. One and all, however, gave the credit to Charles Lefebvre, as being the finest Rose out; while of yellow Roses I was asked, "What do you desire more than *Maréchal Niel*?" We had, after our tour round the gardens, a quiet chat together about Roses and Rose-lovers, and I confess I could not but regard with respect the man who has been so good a raiser of Roses, and has contributed so much to our enjoyment, as François Lacharme.—D., *Deal*.

POISONED SEEDS.

In your impression of the 3rd inst. Mr. Fish wishes to know if any tasteless poison can be procured for the purpose of thinning the feathered depredators of his fruit, &c. As he has for years given me many valuable hints, may I offer him one in return?

The Act of 16th & 17th Vict., c. 113 (1863), enacts (*inter alia*), that any person who shall knowingly or wilfully sow, cast, set, lay, put, or place, or cause to be sown, &c., any poisoned grain, seed, or meal (by 17th & 18th Vict., c. 115, extended to meat also), shall forfeit on summary conviction £10; but this prohibition is not to extend to seed so "dressed" for agricultural purposes only. Mr. Fish may therefore steep in poison the seeds he actually sows, but he must not scatter poisoned seed, &c., about.

I shall conclude by merely stating that half the penalty goes to an informer, and that accessories informing are freed from penalty.—LEX.

THE CULTURE OF ADIANTUM CUNEATUM IN A SITTING-ROOM.

I HAVE been asked to state what has been the treatment of the Fern which gained the *Gardeners' Chronicle* first prize at the Horticultural Society's Show last June. It has been very simple, my great aim having been to bear in mind what was most natural to the plant. It has been usually grown from June to December, in a Paxtonian basket suspended in a south-east window; the soil being a compost of peat, fine sand, and cocoa-nut fibre. While in full growth (from about April to the end of October), I have watered it very freely with a very fine rose, completely deluging the plant, but always being careful afterwards to draw off the water from beneath, so as not to rot the roots. When the fructification is over and the old fronds begin to die off, I remove them gradually until about December, when I usually strip the plant of all old fronds, this giving me room to train the young fronds as they come up; these I always train to hang over the basket—it is easier to do it when the plant is clear, and plenty more fronds come on to fill up the middle.

During the winter months, from November to April, twice a-week is usually sufficient for watering. This year when I found the plant was to be exhibited, I removed it from the south-east aspect to a north-west one in the same room, and lowered the basket on a level with the window, for I found the height drew the fronds. About the beginning of May I again put it in the south-east aspect, and on the 18th of June it had attained the perfection in which it was exhibited; but I must add that the plant is much finer now than when it was shown, and will be still finer in August, and that I believe the chief element of success is the perfect drainage secured by the structure of the Paxtonian basket, which was provided for me by Messrs. Barr & Sugden, King Street, Covent Garden.—C. D., *Deal*.

OROBANCHE MINOR.—On the root of a scarlet Geranium in one of the beds in my garden is growing a plant of *Orobanch*

minor. Is not this rather an unusual position for it? It usually grows on Clover.—A. R., *Bromley*.

[It is a very unusual growth-place for the *O. minor*; but it is known to victimise other plants than Clover. Loefling found it in Spain growing on the roots of Elms.]

TRANSPLANTING THE WELLINGTONIA GIGANTEA.

I READ with much interest Mr. Robson's article in the Number of June 26th, on transplanting this Conifer. It interested me more especially, because I had recently removed a good-sized specimen, and I am sorry to say that I fear I shall lose it.

I purchased it from a nurseryman about four miles distant from my own house. This was, I think, in March last, and being an expensive tree, and about 7 or 8 feet high, I gave directions to have it very carefully taken up. This was done, and when it arrived at my garden it was immediately planted on one side of the lawn, in the place prepared for its reception. It was carefully watered daily by my gardener, and for a month appeared to suffer little or nothing from the change, but soon afterwards it showed symptoms of turning brown, and to-day it looks like rusty old iron. It is living, but I am afraid it will be a long time in recovering, even if it ultimately do so.

If Mr. Robson would give me any suggestions as to the proper mode of treating it now, he would confer a great favour upon me. Mine is a very good specimen, and I should not like to lose it without some effort to save it. Probably, if I have eventually to replace it, the same result will follow.—T. M. SHUTTLEWORTH, *Lancashire*.

[This case so closely resembles others which have occurred here, that the result may be attributed to the same cause. Most likely the tree had stood two years or more in the place it came from. This I believe to be the cause of most of the failures in transplanting the *Wellingtonia*, for the season, in this part of England at least, has been favourable for transplanted shrubs and trees, there having been no long periods of drought. Perhaps if the tree had been screened in some way from the sun and drying winds, and its top frequently syringed, the juices might have been retained in the stem and branches; but I do not think watering at the root called for at any time when there is moisture there. Most likely if the tree be examined a few green twigs will be found near the bottom, but with their tips mostly dead; and such, too, will be the case with the whole of the top for a great part of its length. If this be so, the tree will be disfigured for some years, but it may recover in time, not by the present leader being restored to life, but by one of the lower branches being converted into a leader. If appearance for the time is of no moment, I would recommend that one of these branches be tied up to the existing leader, not cutting the latter out, but simply tying up one of the most likely branches to it—not rigidly tight at first, but, assuming the branch to be horizontal, or, perhaps, slightly pendant, I would raise it a little way at first, and a week or so afterwards raise it somewhat further, until by degrees it had attained the proper upright position. The *Wellingtonia* appears to furnish itself with a fresh leader with as great ease as a deciduous tree, and it would, doubtless, do this without coaxing, but if a little management can accomplish the object sooner, it is worth trying. I am by no means an advocate for much knife work, and if the appearance of the dead part of the tree be not thought too unsightly, I would let most of it remain for a time; at all events do not cut it back to the live wood, otherwise this will die away in a great measure.]

With regard to replacing the tree by another, that must remain a question with yourself. If its unsightliness cannot be endured, then remove it and plant another in September, taking especial care that it shall be one that was transplanted the autumn before. Most probably such plants will not appear so fine as that which is now the subject of complaint, but there is more likelihood of their affording a successful result. I may observe, that in September, when the tree is transplanted, if the weather be dry it will be advisable to afford shade for a time, and to water over the top as well as at the root, and then I have no doubt that the result will be satisfactory. If it be any consolation to Mr. Shuttleworth to know that others have suffered from transplanting the *Wellingtonia*, I may repeat what was stated in the former article, that several fine trees of it planted here last January have failed in a similar manner. Some of these will be treated as described above, while half

a dozen have been replaced by trees of less size removed in June, and these, though not in pots, have not appeared to suffer in the least. However, being small they afford no parallel to large specimens, although they confirm in a certain degree the view taken in my former article, that March is, perhaps, the worst time for transplanting the *Wellingtonia*. —J. R.]

RED SPIDER.

RED SPIDER is, perhaps, the most destructive of all the insects which the horticulturist has to combat. Being small, and confining its first attacks to the under side of the leaves, it is not easy of recognition in its early stages of development; but in a very short time foliage attacked by it assumes a sickly, yellowish appearance on the upper surface, and the parts immediately over the spots where the insect is at work become dotted with a number of minute whitish specks if the leaves are those of the Peach or Fig tree, but if they are those of the Vine the specks are of a yellowish hue. These specks or dots increase in size until the whole leaf acquires a yellow and mature appearance, and its powers of exhalation and inhalation being destroyed it falls off. The small specks or dots on the upper surface of the leaves are the best evidence of the presence of red spider, and if the under side of such leaves be examined there will be observed between the principal nerves a number of minute specks or dots. These, on being touched with the point of a pin, will be seen to move about at a rapid rate, and if observed with the aid of a lens they will be found to be in constant motion, busy on that part of the leaf which they have for greater security enveloped in a network of the finest threads conceivable. If measures be not taken to check the spread of the insect on its first appearance it will rapidly wrap the leaf in a fine network, and will not cease its work of destruction until the juices of the leaf have been so completely exhausted that it becomes totally incapable of performing any of its functions, and falls off.

It is well to remember that the leaf of a Vine or other plant may have every appearance of being attacked by red spider, and yet that the insect may not be present; for the upper surface of a partly scorched leaf has much the same aspect as one suffering from red spider, but instead of specks or dots, scorched leaves usually exhibit blotches; besides, in addition to the dots on the upper surface, there are others corresponding to them on the under surface, and when there are both, and those on the under side move when touched, it is certain that the leaves are not scorched, but infested with red spider.

Though the insect is termed the red spider, scarcely one upon a leaf will be found of that colour, most of them being of a grey, inclining to a reddish brown, and having whitish heads and legs. The colour and size of the insects vary in the case of different plants, for on some they are much brighter in colour and larger than on others.

The red spider attacks a great variety of plants, but chiefly those which have large glossy leaves and require a large supply of water; and yet it does not exclusively confine itself to the smooth-leaved plants, but is as partial to the Egg-plant as to the Violet or Strawberry. It appears to be constant in nothing but in showing the same tokens of its presence, and in this respect it varies but slightly, if at all. Not being an entomologist, I must leave a full description of the insect to those more qualified for the task; and here I may observe that a textbook on insects injurious to garden crops, published at a moderate price, would be a boon to many, who, like myself, are willing to learn and yet cannot obtain a work on the subject, except at a cost totally disproportionate to their means.

Of red spider I am only acquainted with two kinds, or species. 1st, The small and very active one that attacks Vines, Melons, and most cultivated plants grown under glass or in warm situations out-doors. 2nd, A comparatively large one, which I have only found on the Gooseberry and Ivy. I have known the latter attack Gooseberry bushes with such severity as to make them look as if they had been scorched. This is very commonly the case on light gravelly soils.

Red spider destroys the vitality of the leaves, checks growth, and when its attacks are severe altogether arrests it. It prevents the flowers expanding or attaining their perfection, as well as the swelling and maturation of the fruit, and impairs the well-doing of the plant. It likewise, by stopping growth, limits the action of the roots, converting a vigorous plant into one which is sickly.

Predisposing causes innumerable have been assigned for its

attacks, but the principal appear to be a dry atmosphere and a high temperature, with too little air at night. Some entertain the opinion that no plant would be attacked by insects if it were healthy; but I have not yet seen a plant, however healthy to all appearance, that did not become infested with some insect. The green aphid is equally partial to a strong shoot of the Rose as to a weak, drawn shoot of the Pelargonium, and it is the same with most insects; come they do, and whatever they attack is checked in growth, and more or less reduced in health, vigour, and fertility. In whatever state a plant may be attacked, whether weak or strong, the effects are the same; it becomes impaired in health and vigour, and when freed from insects it regains both. Surely this does not show that constitutional ill health and impaired vigour are essentials to insect attacks. I believe that they are not induced so much by any peculiar condition of the plant as by the atmosphere being favourable to the development and increase of the insects. Make a plant as unhealthy as we may, it will not be attacked by the insect peculiar to it until we also produce an atmosphere favourable to that insect.

That the red spider delights in and is encouraged by a dry atmosphere none having experience of it will doubt, and it is most abundant where the heat in houses is artificially derived from flues or hot-water pipes. I can also affirm, from many years' daily observations, that where there is a plentiful supply of atmospheric moisture, a temperature from fire or natural heat no more than the plant requires, and thorough ventilation, that the attacks of red spider are not grievous. Any one having experience in forcing Vines, Melons, &c., knows how much more liable to the attacks of red spider are the crops obtained by employing great artificial heat than those to which less artificial heat and more air are given; nor can those who wash or syringe their Peach trees have failed to find how free of red spider such trees are, whilst others not syringed are literally eaten up if dry weather prevail. A dry atmosphere, too high a temperature, especially at night, and insufficient ventilation, are the conditions under which red spider presents itself; but there are cases in which it will appear when none of the conditions favourable to its existence are present. Still, the fact of the insect existing may be taken as evidence that the air is too dry, too hot, or imperfectly ventilated.

The great agent in the destruction of red spider is water, which may not inaptly be termed its natural enemy. Water forcibly driven against foliage infested with red spider will free it of the pest, and that is the best means to adopt in the case of plants which will not be injured by its application; syringing with soft water is the best remedy as well as preventive which I have tried. Whenever a plant shows unmistakable signs of the presence of red spider, it is well to syringe it forcibly, directing the water against the under side of the leaves, and this is best done in the evening at the time of shutting up the house, or, if the house is not closed, or the plants are exposed, after the sun has declined in power. Bear in mind that syringing once or twice is not of any great avail, but it must be persisted in until the trees are cleared. The only cases in which the use of water for the destruction of red spider cannot be recommended, are when the trees or plants are in flower, for then a dry atmosphere may be desirable for the setting of the fruit, and when a tree is ripening its fruit or wood then a free use of the syringe may not be advisable. When syringing can be adopted it will be found the very best means for the prevention and destruction of insect enemies. It is conducive to health and vigour, frees the leaves of dust, and lessens the evils of an artificial or dry atmosphere. It is objected to syringing that it is not natural, and cannot be otherwise than injurious, it being sufficient if the atmosphere be kept moist by sprinkling the floors, walls, &c., and by the evaporation of water from troughs upon the hot-water pipes. Such may be the case, but I have failed to experience it, having seen the foliage of the Vine brown and ready to fall off by the time the fruit was ripe, and Peaches shedding their leaves before the wood was mature.

When the syringe cannot be used, then we must look elsewhere for the means of destroying the red spider; and here I would discriminate between plants which can, and others which cannot, bear an application destructive to the insect. I may instance the Vine and Melon as plants to which a solution of soft soap at the rate of 2 ozs. to the gallon cannot be safely applied, and yet soft-soap water of this strength is effectual, and not injurious to the foliage of most trees and plants, when applied with a syringe so as to thoroughly wet every leaf on both sides. Three applications on alternate evenings will be

sufficient to destroy a whole generation of red spider. The Vine, Melon, and Cucumber are the only plants which I have found injured by it, for it stains the fruit of the first, and disfigures the foliage of the other two.

Should it not be desirable to syringe, or if plants are attacked to which the soap solution would be injurious, a good remedy is to make the floors, walls, &c., wet by syringing them without wetting the foliage of the plants or trees—this should be done on shutting up the house—half filling pots that will hold 1½ peck with fresh unslacked lime, and then filling up with water, and scattering on this 1 oz. of sulphur vivum. Two pots will be sufficient for a house 30 feet long, 18 feet wide, and of an average height, but if high three will be necessary. The heat of the lime will cause rapid evaporation, and the fumes of the sulphur are carried along with the water, and, unless sulphur be volatilised, it is worse than useless as a destroyer of red spider. The plants should be syringed in the morning, but in the case of Grapes colouring, fruit ripening, or plants being in flower, doing so would prove disastrous. An application of this kind should be made once a week, or twice if the attack is severe. This remedy, it should be remembered, must not be used until the leaves have attained their full size and become somewhat firm, otherwise they will be disfigured. It is more effectual when a good syringing follows, as the insects, if not stifled, are so sick as to be easily washed off.

Another method, in which it is not absolutely necessary to syringe the plants, consists in making the hot-water pipes so hot that the hand when placed on them cannot bear the heat more than a minute, and, after closing the house, to coat them with sulphur brought to the consistency of paint with water in which soft soap has been dissolved at the rate of 4 ozs. to the gallon. The paint thus formed should be applied from end to end of the pipes or flues, and be lightly syringed until the house is full of steam, and unless the fumes of the sulphur are strong enough to drive the operator out of the house they will not destroy red spider. This remedy, like the preceding, must not be employed unless the foliage is somewhat mature, as in the case of the fruit approaching maturity or becoming ripe. Two applications will in most cases prove effectual.

The last remedy which I have to note is sprinkling the floors, walls, &c., morning and evening, with 4 ozs. of Peruvian guano dissolved in a gallon of water, and especially at the time of shutting up the house. The atmosphere is thus largely impregnated with ammonia, and in such red spider cannot live.

Prevention is in all cases better than cure, and to this end a dressing applied in winter to trees that are liable to be attacked will be found effectual, coating not only the stems and branches but the walls. This dressing may be made of soft soap at the rate of 4 ozs. to every gallon of water, with enough of this to equal parts of flowers of sulphur and fresh lime to bring them to the consistency of paint for the trees, and of whitewash for the walls. The application should be repeated on the walls and heated surface when the leaves attain their full size, and again when the fruit commences to ripen. Its action depends on the fumes of the sulphur being generated by artificial or sun heat, and the soft soap causes the mixture to adhere; the lime, too, is a powerful remedy against spider, and its more formidable rival mildew. By thus dressing the stems and branches the eggs are destroyed.

Lastly, daily sprinkling the floors and every available surface, from the time that growth commences, with soot water, made by placing in a cask a peck of dry soot, and pouring over it thirty gallons of water, will produce an atmosphere in which red spider will rarely appear. Soot water, with the addition of a peck of sheep's dung to thirty gallons of water, is excellent for filling evaporation-troughs, and so, too, is guano, at the rate of 4 ozs. to the gallon of water. For syringing, the soot water should be clear, and it will not injure the most delicate foliage; but guano water for syringing, should not only be clear but strained, and not stronger than 1 oz. to the gallon. Dressing with soot borders in which are trees or plants liable to be attacked, is a very good preventive; also watering overhead with guano water in the evening; but the best of all preventives and remedies is to keep the plants moist, to give plenty of air, and to maintain as cool an atmosphere as is consistent with their healthy development.—G. ASSEY.

POTATO ONION.—I have just dug up my crop of this variety. The sets were small bulbs. These have now become large bulbs, but, singular to say, there is but one Onion in the whole crop which has divided itself, and that has separated only into

two. The crop, therefore, differs from the common Onion only in dying down earlier, and in not showing any flowers. The soil was light and rich, the situation sheltered. I should be glad to learn if any of your readers have ever found their Potato Onions refuse to increase by the root.—G. S.

ROYAL HORTICULTURAL SOCIETY.

At the Saturday Show of the 14th instant prizes were offered for the best collection of six Carnations, and also for six Picotees. In the former Mr. Britton, of Corston, near Bath, was first; Mr. E. F. Kingston, Militia Barracks, Bath, second; and Mr. Henry Grant, Midford, near Bath, third. For Picotees, Mr. Britton was again first; Mr. Grant, second; and Mr. Kingston, third. For the miscellaneous collection of fruit, Mr. Richard Marcham, gardener to E. Oates, Esq., of Hanwell, was first, and Mr. Young, gardener to R. Barclay, Esq., Highgate, second. There was a considerable variety of miscellaneous subjects exhibited. Mr. Hooper, of Vine Nursery, Widcombe Hill, Bath, obtained extra prizes for a beautiful collection of twenty-four Carnations, twenty-four Picotees, twenty-four Cloves, twenty-four Pinks, and twenty-four yellow Picotees. Mrs. Hooke, of Morville Lodge, Fulham, obtained a second-class certificate for cut blooms of Verbenas, and Mr. R. Marcham a first-class certificate for twenty-four cut Roses. Mrs. Hooke also received a first-class certificate for a fine plant of *Lilium auratum*, and Mr. Young was awarded an extra prize for a collection of miscellaneous plants.

GNAPHALIUM LANATUM.

I FOUND this last season to be one of the most useful white-foliaged plants we possess, more especially for groundwork, where a distinct colour is required; and it is furthermore most manageable in all respects. The way I employed it was as follows:—With some circular beds at this place I formed a star pattern; this I filled with *Frogmore Scarlet*; for the rest of the circle I used the *Gnaphalium*; at the same time I had a band all round. The arrangement, simple though it is, had a charming effect. Much of this effect depends upon pinching and pegging down, until a dense carpet is formed; if allowed to ramble naturally it presents an untidy appearance in such a position and for such a purpose as I planted it. It may not be quite hardy in some localities, but with slight protection I am inclined to believe it will withstand the cold of our ordinary winters. Up to this date, January 14th, it remains out-doors here, and is not much injured; but to be safe, a few store pots may be struck in autumn, and wintered under glass, which, with a shift in spring, and placed in moderate heat, will produce cuttings enough in a short time, as it strikes freely.—J. E. (in *Scottish Gardener*).

FIFTY CUT ROSES.

I AM sorry to trouble you again with regard to the first-prize collection of fifty cut Roses at the late Jersey Show. From your answer I suspected that the point sent for your decision had been misunderstood; and my suspicion is now quite confirmed by the letter of the Rev. W. F. Haddyffe in your Number of the 10th inst., which I have only just received. This misapprehension seems to have arisen from my anxiety to be concise and yet give the exact words of the objection. The objector said, "There were fifty-one Roses." He should have said, "There were fifty-one blooms." The collection in question consisted of only fifty trusses, one of which had two fully open blooms (he did not object to buds), and he meant to say that one of these blooms should have been cut off, or, in other words, that the prize was offered for single flowers, and not for single trusses. Now, as the prize schedule did not specify single flowers, the Judges decided that the class was open to single trusses also, and therefore refused to disqualify the stand in question.

This, then, is the question for your decision: If a prize were offered for "fifty cut Roses, distinct kinds," would you disqualify a stand of fifty trusses? One is almost tempted to be severe, and ask why the splendid truss of *Cloth of Gold* (noticed in the same Number, page 4), did not obtain a disqualification for Mr. Hedge instead of contributing towards his victory. Of course the schedule in our case was in fault; but the Judges were called upon to award the prizes as the schedule stood, and not to amend it.

I need hardly say that I am much obliged to Mr. Radclyffe for noticing my communication, though he is rather hard upon the Jersey rosarians; and I cannot neglect the opportunity of thanking him for the very great pleasure and profit I have derived from his excellent articles on the queen of flowers. "Our Journal" is certainly never more welcome at our fireside than when "Bashon Radclyffe" is to the fore in a raid among the Roses.—ONE OF THE JUDGES.

[There was no misapprehension on our part, nor do we think there was on the part of Mr. Radclyffe. As you put the case now, we could not suppose that any one for an instant would have a doubt. "Fifty trusses" ought not to be allowed even to be exhibited for a prize offered for "fifty cut Roses." What was intended by those who worded the schedule is immaterial. "Cut Roses" mean single opened flowers, flower-buds with them are unobjectionable. The fifty-first Rose, in the case, as it occurred, disqualified the collection.—Eds.]

DRIP AND DOUBLE-GLAZING.

In answer to "D. Y. S." and other inquirers:—

1st, There is no difficulty in explaining how a span-roofed house, 27 feet wide and 23 feet high, with the one end to the prevailing wind, is, independently of heating, warmer than a low house chiefly a lean-to, 12 feet wide and 12 feet high, as the prevailing south wind would strike along the whole front instead of partially on the sides, as in the other case. Again, the great body of the air enclosed in the larger house renders all sudden changes in the external atmosphere less perceptible. This is a matter that has never received a sufficient amount of attention. Without any heating, such buildings as the large conservatory at Kew, at Ohatsworth, and even the huge Crystal Palace, are less quickly heated and less quickly cooled than smaller houses. Much has been done in maintaining a high temperature in forcing-pits; but even that was effected by keeping in the heated air by covering the glass with some non-conducting material at night, whenever the expense of fuel was an object. Without that covering there was always danger in cold nights whenever the fire went out, and that danger would have been much diminished if the quantity of air enclosed had been three or four times as great. The more air that is enclosed under a similar plane of glass surface the more regular and easily managed, as respects temperature, will be the enclosed atmosphere. We can imagine that in a continued frost a house 23 feet in height would come to be as cold as one merely 12 feet in height, but it would be a considerable time in falling so low in temperature; and just because it is longer in cooling, so the larger building will be longer in heating. A large house, therefore, holds out greater inducements to carelessness in air-giving and furnace-regulating than a small one—a matter that should not be lost sight of by those amateurs who must have their house for plants, and yet must be away for the greater part of the day. A house containing only a few feet of atmospheric air might have everything burned up in it, whilst a house containing a double quantity of enclosed air would suffer but little. In a house somewhat lofty, and a little air given at the back early, a man may go to his business in the changeable spring months with the certainty of finding all right when he returns in the afternoon.

2nd, Protecting low houses and pits, whilst securing an equable temperature, also prevents the plants suffering from drip. Drip is the result of the condensation of the moisture, existing in the atmosphere of the house in a state of vapour, coming in contact with the cold exposed glass as a condenser. The more moisture in the enclosed atmosphere, and the greater the difference between the inside and the outside temperature, the more will this condensation of moisture take place. Every lap in the glass encourages this condensed moisture to fall all over the house. In single-glazing, the plane surface of Beard's plan prevents the drip falling; the moisture trickles down the plane of glass and gets outside the house. Other contrivances have been adopted for taking the condensed moisture down the grooved sash-bars, and then returning it to the house over the heating apparatus, so as to keep the atmosphere duly moist. Perhaps the most successful mode for keeping the moisture in the atmosphere of the house and preventing alike condensation and the consequent drip, is double-glazing the roof. In all such cases the outer glazing should be moveable if the inner glass should be fixed. From 4 to 6 inches between the inner and outer planes of glass would be a suitable distance. We are not so sure of the plan answering thoroughly in some

kinds of fruit-houses, but for plant-houses it answers admirably. We hope some friends will tell where our correspondent will see the plan in operation. On a large scale he will see it successfully practised by Mr. Bewley, near Dublin, whose place has been described twice at least in these pages. The more close—that is, free from openings, the two planes of glass are, the more thoroughly will they prevent condensation and drip. The double glass acts more perfectly in this respect than a mat or a sheet thrown over a pit or frame, because a closely enclosed body of air, whilst it does little to keep out light, is one of the best non-conductors of heat. As alluded to above in the case of forcing-houses, the chief value of double-glazing is the regularity of the temperature thus easily secured. If the enclosed body of still air prevents the lower or inside plane of glass becoming cold, there can be no condensation, and no consequent drip.

3rd, Much may be done in common houses with a high temperature and a moist atmosphere, in preventing drip even in cold nights, by leaving just a little air on, especially at the highest point in the roof; the moistest air would thus escape, and a little more firing and evaporating-pans would be wanted.—R. F.

PAMPAS GRASS—PROPAGATING GLOXINIAS BY THE LEAVES.

THE gardener did not cut the Pampas Grass down early in spring, and about 18 inches of the flag seems dead. If the dead part of the flag were cut off, would the bottom green part grow? It is a large bush, but has never yet flowered. The gardener last winter tied it straight up a pole. Would that injure it? Can Gloxinias be propagated by their leaves?—A SUBSCRIBER.

[After what the winter of 1860 and 1861 did with Pampas Grass, we would cut none of it down in winter or spring. Every decayed part might be removed in spring, but the old leaves furnish a good protection. The tying-up of the leaves would increase the protection. Give your plant plenty of water and rich top-dressings now, and we hope you will have plenty of flower-stems in the autumn.

The Gloxinia propagates freely from the leaves. The easiest way is to cut off a leaf with a good piece of the leafstalk, and plant the latter in pots just as you would cuttings. The leaf if thus kept in a shady moist place will soon form a tuber at the base of the stalk. Another plan is to take the leaf, notch it at the back where all the smaller nervures meet the midrib, fix the leaf by small pins flat on a damp surface, and small tubers will form at all the notched parts. Another simple plan is, to take a leaf, split it up at the midrib, and then cut outwards to the outside in strips—say one-quarter of an inch wide, plant these thickly in a pot, the part with the midrib being lowest, and almost every one of these slips of leaves will form a tuber at the base. It is thus easy to multiply any kind of Gloxinia, or of fine-leaved Begonia, which may be propagated in the same way. By these modes you do not obtain so large a tuber as when you use a leaf for a single tuber instead of a score or more. A moist, warm, shady place is necessary for success when the leaves are thus cut up into shreds.]

DOUBLE-GLAZING.

THE very important subject of double-glazing is claiming a good deal of attention just now, and deservedly so. It is not our purpose to say one word about the desirability of a second covering; every gardener knows its value. To be able to maintain the proper amount of heat and moisture, with moderate firing, is the point, as well as shielding us from the evils of sudden depressions, which sometimes overtake us unawares. Double-glazing is nothing new; it has for many years been practised in all northern continental countries for window and other purposes. We are not about to advocate the application of this principle to all garden structures—only to such as are employed for early forcing, Cucumber and propagating-houses, Pine and plant-stoves, &c.—in short wherever strong heat is required. To these structures we think we can easily prove that double-glazing would be by far the best and cheapest mode. If we for a moment notice the many abortive attempts that have been made, and are still being made, by anxious men to cover the roofs of forcing-houses, whether by canvas, frigi domo, or even "horsecloth material," and knowing, as we do, that

almost all these attempts end in failure, if not in mischief, we shall soon turn our thoughts to something else. Coverings may be useful on still frosty nights, but these are not the nights when they are most needed. Only have one of those strong gales which have been rather frequent this year, and where is your covering? most likely all in shreds, with perhaps not a little glass broken to boot!

Have any of your readers ever practised another plan, which may be called "covering-in"? This is to be applied inside the glass; have your frigi domo made the proper size of the roof to be covered, and fitted with curtain rings, top and bottom, to slip along on wires fitted up on purpose—one along by the front plate, another at the top of the house; or, if a span, just below the ridge. By means of lines and pulleys, this cloth could be drawn forwards or backwards to one or both ends of a house with a clear roof very easily, and being near the glass would no doubt prevent a large amount of heat escaping, or prevent the cooling action of the glass on the temperature of the house. In vineries the iron work for supporting the Vines would be in the way; but if the practice were good, a piece could be made for each sash; there is plenty of room between the Vines and glass, as Vines are generally trained up 16 or 18 inches below the glass. But supposing this plan to answer, it would be an expensive plan as all coverings are. Let us just look at the commercial point, for we must be prepared to prove that our project "will pay," or at all events to prove that one project is better and cheaper than another. Well, take frigi domo, which is perhaps the best and cheapest fabric we can employ for covering, either outside or in; the first cost of this is at least 10d. per yard, or something more than a penny a-foot, without binding, fitting, or anything else, which will bring it up to at least a shilling a-yard. How long will it last? allowing for the sake of argument that it answers its purpose; will one season wear it out? if not, we will give two; so here is a cost of 6d. per yard per year with a very doubtful advantage.

Look now at glass—good sheet at 16s. per 100 feet—not quite 2d. per foot, or less than 1s. 6d. per yard. The work of glazing and painting would doubtless double this amount, or perhaps even a little more; but if it did, we have something permanent, and something which will answer its purpose. Coverings, as we have just seen, abortive as they are, will in ten years cost at least 5s. per yard. Take now your glazing and painting at a good price, say 5d. per foot, or 8s. 9d. per yard—and this is unfair, because the woodwork must be painted even if you have no second glass; but take it at 3s. 9d.—and at the end of ten years it will be very little worse than when new; a small percentage will cover the breakage in the ordinary course of events; and this comparison will prove the great expense of all endeavours at covering hothouses. We will now come to what we think the best way of applying the principle of double-glazing to garden structures, first premising that we do not mean to say that it would be easily or cheaply applied to an old or sash-made roof. That is a mode of construction which we do not advocate; we are quite aware that many of our best gardeners approve of it, and consider that it has great advantages, but for our own part we confess we cannot see these advantages; we see a heavier, more cumbrous, and more expensive roof, but certainly not advantages sufficient to compensate for these drawbacks. But take a rafter-roof, either lean-to or span, the ribs running from the front plate to the top, the glass placed on these rafters without any framework whatever, and we have a very simple affair. If your house is narrow, and the rafters not more than 12 or 14 feet long, rafters of 4 inches by 2 would be sufficient for double glass; but if the rafters run from 17 to 20 feet, we would say 5 inches by 2½, or 5½ inches by 3. Should the roof be rather flat, it is a good plan to have every fourth rafter at least 3 inches thick, for strength, as well as for another reason which will appear as we proceed.

The ribs or rafters need not be closer than 18 or 21 inches, made to take 20-inch squares is a very good size. We will now take our rafter of 5½ inches by 2½, and show how it is to be prepared for glazing. We would first, however, observe that in sawing out, these rafters ought to be cut in pairs—that is, in pieces of course the proper depth, but 3½ inches wide; then every piece would make two rafters, just in the same way as cutting out weather-board. Our two rafters would be 2½ inches by half an inch each; the quarter is allowed for working. On the top of each rafter, after it is fixed on the roof, nail a strip three-quarters of an inch thick and 1½ inch wide, thus leaving half an inch on each side as a rabbet for the glass. Then at 3 inches from the top edge of this rabbet nail on another strip, 1½ inch wide, half an inch at one side, and tapered off

to nothing at the other. This is the rabbet for the inner jacket of glass. Every carpenter knows that strips nailed on as here recommended must be laid on in good white lead; that properly done, there is no fear of wet getting in. The rafters are cut tapering for two reasons—first, to allow the same sized glass to be used for both coats, outer and inner; also as the portion below the glass is tapered off, the roof will look neat and light.

Grooves might be ploughed out in the sides of the rafters, and the glass slipped in edge to edge; but it is very questionable whether sheet-glass can thus be fitted sufficiently close; and, should an accident occur, how is a square to be replaced? With a rabbet, a portion of it could easily be taken out at one side—the glass put in, the piece replaced, and the thing is done.

These fixed roofs are sometimes ventilated by openings in the back wall of lean-to's, and at the ends, or along the centre of the ridge in spans; but a very simple plan is to have narrow lights along the top, 2½ feet wide, and 7 feet long. These may work on pivots, or up and down on castors the same as other lights. If they are made to run down, let the castors come on the thickest, or three-inch rafters, where they can be allowed a little more bite. However, there can be no difficulty about the ventilation. We find the narrow lights work very well on the top of the rafters.

Such are a few crude remarks on this important subject. We believe this subject has an interesting future, and it is well to see that the plan can be carried out at moderate expense. Nothing has been said about the advantages to be gained as compensation for increased expense; these will occur to every one;—improved health of whatever is grown, saving of coals, less labour, and less anxiety in the minds of those who have the responsibility. I fully expect we shall soon see plenty of double roofs.—A. Dawson, Rood Ashton (in *Scottish Gardener*).

HERBACEOUS CALCEOLARIAS.

I WAS much pleased to read in the last Number of the *Journal*, page 21, so able and excellent a paper by Mr. Kerr, from the "*Scottish Gardener*," on the cultivation of herbaceous Calceolarias. The first and most essential requisite to form a fine collection, Mr. Kerr remarks, is to secure seed from a first-rate strain. Now, as I had the great pleasure of seeing this spring some of the best herbaceous Calceolarias ever exhibited, grown by Mr. Robert Neill, of Rivington, near Chorley, Lancashire, I can most confidently recommend amateurs and others at once to secure packets, now advertised, of this famous seed. I can guarantee that no one will be disappointed, and am certain that the flowers produced from this excellent strain will give the greatest satisfaction. Out of specimens of some twenty or more varieties that I examined there was not an inferior flower among them; form, colour, and texture were all first rate. That Mr. Neill is anxious to establish his reputation for his very excellent strain of this beautiful flower there can be no doubt; he has taken considerable pains to do so, which fact will, I feel certain, ensure a supply of his genuine seed.—J. D.

NOTES ON THE WAY TO THE HOLY SEPULCHRE.—No. 3.

So wondrously is the history of the Holy Land interwoven with that of the land of Egypt, that in writing of the one it seems impossible to avoid the mention of the other. The "going down into Egypt" is a natural prelude to the "coming out" into Palestine. "A people come out of Egypt" was at one time the distinctive appellation of the children of Israel; while of the Redeemer Himself it is written, "Out of Egypt have I called my Son." Strangely typical is this sojourning amidst the "flesh pots" of Egypt, before the journey in the wilderness, with its hardly-repressed longings after past pleasures, leads us to the Promised Land at last.

I have nothing about wild flowers to tell in this chapter, for but few plants spring up from the desert sand, and horticulture has at no time been in any great request—perhaps from the scarcity of rain, for we read that showers are very rare, excepting on the seacoast sometimes not happening twice in the year; or it may be, that where the cultivation of land is both difficult and expensive it is expected to be remunerative; and so we read of Olives and Rice and corn, of fruit and

vegetables, rather than of flowers. And yet I think that a few notes gathered from the unchangeable features of this ancient country may be of interest, ever bearing in mind how intimately it is mixed up with all the Sacred Writings, and that there still remains this great promise for the land "whom the Lord of Hosts shall bless, saying, Blessed be Egypt my people." More than three thousand years ago and Egypt had its history, its civilisation, its arts and sciences, its priesthood, and its kings. Its physical features and natural products are now much what they were in those far-off times. The royal Nile, tracing its majestic way, still sweeps through the length of the land, and spreads fertility and blessings on every side, although these gifts are sometimes sadly changed into devastation and misery, when the capricious waters rise above their ordinary elevation, carrying away both man and beast in their relentless course.

The flax and fine linen of Egypt, so often mentioned in Holy Writ, are represented now in the Cotton fields, towards the cultivation of which the alluvial deposits of the Nile, together with its cleverly constructed canals and embankments, are made subservient. When the Cotton is gathered crops of Beans, Clover, and Barley take its place, artificial irrigation making up for want of rain. "The peasantry," says Mr. Wanklyn in a letter to the Secretary of the Cotton Supply Association, "are most intelligent cultivators, and invariably pursue the most productive systems. They have nothing to learn in that way; indeed, our English farmers might learn a good deal from them in the careful cultivation of every available yard of land. The cleanness of the growing crops—not a weed to be seen, and the manner in which they protect some of their crops, by putting upright reeds along each row of seeds to shelter the young plants from the winds, are worthy of notice." This growing of Cotton has had a prejudicial effect on that other production of the soil for which Egypt was even more noted than for its flax. In days of old "there was corn in Egypt;" but in 1865 Mr. Wanklyn writes, "Much of the land shows unmistakable signs of exhaustion from being over-cropped in Cotton. Other crops have been neglected; and the people are paying dearly for food which has been imported for them, whereas they formerly exported large quantities of cereals."

The race of Pharaohs and of taskmasters does not seem to be extinct. From the remote days of the shepherd kings down to this present hour, the government of Egypt has been its curse. Burdens grievous to be borne have been laid on the children of the soil as well as on strangers, and "all manner of service in the field, wherein they made them serve, has been with rigour." So heavy still are the taxes in money and in produce, that we read that the poor farmer, or "fellah," is often compelled to steal from his own crops sufficient for the need of his half-starving family, which he carefully hides away from the tax-gatherer's eye. Mr. Wanklyn speaks of £1 being paid to the present Government for every acre of cultivated land, and of the rent of land being £5 an acre.

Next in importance to the people, in whose eyes the occupation of a shepherd was an abomination, after the corn comes the fish. When in the wilderness the children of Israel "remembered the fish which they did eat in Egypt freely;" and in the prophetic curse uttered by Isaiah against Egypt, a part of it is that "The fishers also shall mourn," and "they shall be broken in the purposes thereof, all that make sluices and ponds for fish."

In the journal which was sent to me with the plants, the habitats of which I have to describe, I find this passage, referring to a visit which the writer paid to examine some excavations recently made by a gentleman while preparing to build a new house near Alexandria. "We found it well worth a visit; water-tanks and room-walls had been exhumed in very perfect condition, but the gem of the place was the fish-tank, about 12 feet square, and having in its sides, all round, jars built into the cement for the fish to hide in." The exhumed villa was of Roman architecture, and the prophecy of Isaiah was uttered many hundred years before Egypt became a Roman province. Yet centuries since the fish pond was filled up with sand and earth, and now the ancient jars and the tank itself have been destroyed, the purposes thereof having long ago been rendered useless.

Even more unchangeable in their aspect than the great river are the deserts of Egypt; but with the desert the modern traveller has but little to do: he looks at it from the windows of a railway carriage, or, perhaps, he slowly walks by the side of the train, trying in vain to realise something of the horrors of the wilder-

ness. How often, when reading of the exodus of the children of Israel, have I tried to picture to myself that "evil place," which "is no place of seed, or of Figs, or of Vines, or of Pomegranates," and where there was "no water to drink," and "no bread," in which they were condemned to wander for so many weary years.

Accustomed to the fresh rich verdure of England, or to the more glowing beauty of the Continent, how can one who has never travelled in the East gain with any degree of truthfulness an idea of the desert with its trackless wastes of glaring sand?—of that "immense ocean of loose reddish sand, unlimited to the eye, heaped up in enormous ridges running parallel to each other from north to south, undulation after undulation, each swelling 200 or 300 feet in average height, with slant sides and rounded crests furrowed in every direction by the capricious gales of the desert," where "in the depths between, the traveller finds himself, as it were, imprisoned in a suffocating sand-pit, hemmed in by burning walls on every side; while at other times while labouring up the slope, he overlooks what seems a vast sea of fire, swelling under a heavy monsoon wind, and ruffled by a cross blast into little red hot waves," where there is no "shelter nor rest for eye or limb amid torrents of light and heat poured from above on an answering glare reflected below." We cannot realise this, and yet as we read*, a faint reflection comes over us of that longing with which the escaped Israelites turned back in thought to the juicy fruits and vegetables, to the cool clay water-pots of the land of their bondage. I know that the deserts of Lower Egypt, and the "desert of the wandering," differ considerably from those of central Arabia. The limits are more circumscribed, and their features of barren desolation are not marked in such vivid characters, they are more intersected with vegetation, more fertilised by springs; but it seems to me that in realising one we are helped to realise the other.

Not far from Cairo, and from the ancient ruins of Memphis, across the Nile, to the west, rising from a plain of sand, stand the Pyramids of Gyzeh, mentioned by Herodotus as having been built upwards of four hundred years before he visited Egypt, or about nine hundred years before Christ. He also states (on, I believe, the authority of the priests of Memphis), that 100,000 men were twenty years building what is called the Great Pyramid, which, covering a space of thirteen acres, rises, or would rise if about 20 feet of its apex had not been destroyed, to a height of about 480 feet.

All the Pyramids have square bases, and their sides face the cardinal points, rising in steps which gradually diminish in size till they taper to a point, or rather would do so, if that point were not broken off, and a flat form left in its stead.

These stupendous monuments, so silent, grand, and solitary, add to the shores of the Nile another unchangeable feature. They extend at irregular distances for more than sixty miles on the west side of the Nile, without change, as we count change, yet slowly and surely these silent witnesses to the mutability of all earthly architecture, are passing away, and at the present time I believe there is not one which is left in a state of perfect preservation. Immutability or exemption from change seems the one great "idea" of Egypt, exemplified in her laws, her customs, and her architecture. The lives of thousands were sacrificed again and again to show forth this idea—an idea, containing within it elements at once the most puerile and the most noble; puerile, indeed, when it sacrifices life and happiness to earthly fame; but noble beyond all words when allowed to develop itself into its true shape—the immortality of the soul.

Of the wild flowers of Egypt, I have only the few that I mentioned in the last paper, as found growing by the seashore. "There is little to interest the horticulturist in Egypt," writes Mr. Wanklyn. "The much-talked-of Shooobra Gardens (the gardens of Halem Pasha), near Cairo, are vaunted solely because they are the only thing of the kind in the country; but 'they are not what we should call gardens at home' (as the intelligent English gardener remarked to me), being more plantations of trees, planted in a star-fish pattern, with cross paths, so that there is a shady walk for all hours. The flowers were but the common kinds of Roses, and flowering shrubs of ordinary character."

In the centre of the garden at Shooobra there is a fountain surrounded by an open building, with a marble floor, on which couches are placed, and the whole description reads to me green and fresh, and luxuriously cool, especially after the description

of the hot, dried-up Pyramids, and the hard-working Nile, which is always being made to act contrary to its inclinations; now banked out, now let loose, now irrigating Cotton fields and gardens according to fixed measure, and now worried by steam engines into all sorts of uncomfortable positions. After all the bustle and heat of agriculture and nature, methinks horticultural taste was best shown in the Pasha's garden, by the quiet repose of those shady walks, where the eye was not distracted by brilliancy of colouring, nor the mind by the extraordinary character of the shrubs.

Although wild flowers in Egypt may be few, there yet remain its fruits, and of these I find there are Mulberries, Apricots, Peaches, and Plums, Grapes, Figs, Prickly Pears, Pomegranates, Dates, Lemons, and Oranges, with, later in the year, Bananas. Egypt has its Olives and its Vines. Its fields produce Wheat, Barley, Beans, Vetches, Clover, Flax, Indian Corn, Cotton, Sugar Cane, Rice, Tobacco; while Water Melons, Cucumbers, and Lettuces, grow side by side with the Leeks, the Onions, and the Garlic, for which the thirsting Israelites longed in that great and terrible wilderness, where their very "souls felt dried away" within them.—FELIX-FERMINA.

A DAY IN THE DOMAIN, AUCKLAND, NEW ZEALAND.

BY MRS. C. M. ROSE.

A LOVELY morning in early summer, the sky blue and cloudless, and the pleasant sunlight just tinging each wave with gold as they ripple gently on the bosom of the broad placid bay.

Well provided with kits and baskets containing the needful provision for our party, and trying in vain to restrain the dancing footsteps of the children within the bounds of decorum, as we pass along the busier streets, we set forth upon our pleasant excursion. Presently we have gained the Grafton Road, and here the children break bounds altogether, and progress as pleases them best for the remainder of the distance. After duly admiring the delicious bit of sea view, which opens to the left across Mechanics' Bay, we enter the shrubberies of the Domain, and join a large number of pedestrians, all making the best of their way to the scene of enjoyment, and with the same object of pleasure in view. Up the winding paths, through a sea of green foliage on all sides, catching a glimpse occasionally of lovely flowering shrubs, some of which would be treasures in any English greenhouse. You hear the murmuring of the stream far below you on the right, and can hardly fail to admire the lovely specimens of Fern and other trees which overshadow it. Still onward glides the pleasant track, now through green glades chequered with summer sunshine, and again through cool dells overhung with tall trees, whose interlacing boughs make a welcome shade from the now fast increasing heat. Soon you hear the sound of voices and merry laughter, and in a few minutes you stand in the shadows of that grove of trees so well known to the inhabitants of Auckland as the gathering place for the summer sports of their juvenile population.

Surely this is the most suitable place in the world for a summer day's out-door amusement. Innocent and healthy recreation seems the rule in all directions, and taking possession of one of the many benches which seem fixed under the trees for the special use of the elders of the party, we give ourselves up to the complete enjoyment of the scene before us. A dozen or two of strong swings, which seem extensively patronised, are in active operation around us, and close to each a group of girls, each eagerly awaiting her turn at the much-loved exercise. Young faces decked with smiles everywhere meet the eye, each seeming to be thoroughly imbued with the true spirit of enjoyment.

In the open space outside sports of every description appear to be going on, and thither, after resting for awhile, our party bend their steps.

On the left, we perceive a group of young people dancing to the music of an accordion, whilst, scattered over the grass in every direction, various parties are busily pursuing games of football, French and English, and the immemorial "kiss in the ring." Good humour everywhere prevails, and the occasional tumbles and mishaps apparently only add to the general fund of amusement.

But our appetites warn us that the dinner-hour is near, and a table-cloth spread on the grass under the trees does duty for

a more ostentatious board, and is soon covered with eatables of various descriptions, which are doubly enjoyed in company with the fresh air and the happy scene around us. How the young people seem to relish the racing to and fro to the spring for the water, which is our only beverage! But, by-and-by, they are off to their sports again, and we proceed to put in practice a plan we have formed for taking a quiet stroll through the grounds, finishing with an inspection of the flower garden, not forgetting to notice the stately swans, whose aquatic home is just outside the entrance.

What an inestimable privilege the unrestricted enjoyment of these grounds must be to the inhabitants of Auckland, and it is a matter of surprise that they are not more eagerly frequented by those who love beautiful scenery and a profusion of flowers. There are few European capitals where such a place so close to the city would not be almost inconveniently crowded on most fine days in summer. Those who possess floral tastes will find them fully gratified here in the garden; memory is busy as your old English favourites meet your eye, visions of the green lanes and quaint old gardens of your childish home seem to rise before you, and a sigh is involuntarily given to that blest time of innocence when Violets and Primroses were more highly prized than the richest jewels, and wild Strawberries a more eagerly sought-for prize than any which life since those days has brought us. Plants which you remember carefully tending as the delicate pets of your conservatory, are here hardy trees flourishing in the open air, their gorgeous tints and foreign-looking foliage reminding us at every step of the lovely climate and fruitful soil of this land of our adoption. And now once more we are wending our way slowly to the summit of the hill, wishing to see how the lovely panorama there visible looks in the golden light of the coming sunset.

Before us lies Parnell, its white houses looking peaceful and happy on its green hills sloping so gently to the water's edge; beyond that a broad expanse of the purple glittering sea, and still further the outlines of blue hills blending with the sky in the far distance. The spires of the different churches, the residence of the bishop, and the many pretty villas peeping from nests of green foliage, form a picture which will not easily be forgotten, and truly rural and pleasant in its aspect, for the wooded expanse of the Domain here hides the busier streets and suburbs of the city from view. To the right are the villages of Newmarket and Epsom, and the well-known outlines of the hills beneath whose shadows they repose, whilst behind us rises Mount Eden, grand in the savage beauty of its aspect at this distance, and already growing dark with the purple shades of the coming night. We choose a quiet path for our homeward walk, not caring to have interrupted the pleasant train of thought into which we had fallen, and we linger by the way enjoying the beauty of the twilight which, though brief, is lovely enough to remind us of that immortalised by the poet as

"The purple twilight dim"

through which

"The happy princess followed him."

But the moon rises suddenly over the dark tree tops, flooding the scene with a brilliancy of light unknown in colder latitudes, and, softened by the distance, we can catch the sound of the well-known air played by the band of music returning with a numerous body of the holiday-makers to the city. We have reached the brow of the last hill, and before us gleam the lights from the familiar streets of Auckland, and we have one more day of happiness to add to the brighter side of our life account.

THE VINEYARDS OF GERMANY.

A VISIT TO THE CELEBRATED HOCK VINEYARDS—THE GREAT WINE YEAR OF 1865—PRICES AND QUALITY OF WINES, &c.

THE Rhine Gau, so called, extends from a point opposite the city of Mayence, on the east bank of the Rhine, and extends down to Rudesheim. It is generally, however, understood to begin at Biebrich, the summer residence of the Duke of Nassau, which is only about a couple of miles below where the river Maine enters the Rhine. Near this are the great Hock vineyards, where that unrivalled wine known by the name of Hock is produced. These vineyards front on the river Maine, and are only distant about a dozen miles from the city of Frankfurt. For a distance of two or three miles on the bank of the river, there is a narrow belt of land, in some places not more than 40 rods, and in others not over 80 rods in width, covered

with the Grape from which most of the Hock is made. These lands have a gradual slope down to the river, and a fine southern exposure. The lands are of a good quality, and have been used for the purpose of raising Grapes for more than a century past.

Among the most celebrated in this section for the Hock wines are the graperies of Mr. Pabstman, known as the Victoria, and one belonging to the city of Frankfort. The extent of Mr. Pabstman's I should think not over twenty acres, lying in a body, but he has many other little tracts near by, not contiguous to each other, used also for this purpose.

Many other persons own little strips of land varying from an acre to two or three acres each, lying in a square form, or in the shape of a parallelogram, also running down to the river bank, devoted to the culture of the Grape. None of the owners of these lands live upon them, but they and the labourers have to come a distance of from two to five miles every day to work them. The residence of the owners or of the workmen is generally at some village not far distant.

Several proprietors of vintages, owning a dozen or more acres of these lands, have them cut up into as many pieces, not any two of which adjoin each other. This small division, it seems, came from the frequent partitions of estates among numerous heirs, and you can always depend upon a German family being large! Some of these tracts are tilled by the owners, while others are let out to tenants, who either pay a fixed rent in cash for the land, or deliver a certain quantity of wine.

It is said that there does not average more than one year in five favourable to the production of wine, or known as good wine years. Looking back for a period of about fifty years, the best for wines were 1811, 1822, 1834, 1846, 1857, 1858, 1861, 1862, and 1865.

These wine lands are very valuable here, and are worth not less than 2500 florins the acre. It is not uncommon for the proprietors to expend on manure from 80 to 100 florins per year, and even then they yield in some years a profit of from five to ten per cent.

On the high rocky hills, below on the Rhine, or further up the Maine, where the Vine is also extensively grown, the lands are not so good or valuable, nor are the wines there made as good. A proper slope and exposure to the sun seems necessary for the successful cultivation of the Vine, in order to get all the sun possible. I think in all my travels I never saw any Grapes growing on level land. There is never too much sunshine in Germany, and all there is seems to be required for the Grapes. The year 1865 is, however, an exception, and the summer will compare favourably with America. During a part of July, and even of September, the mercury has been for days among the nineties, a fact which has not been before known in the recollection of the oldest inhabitant. During the whole month of September and up to the beginning of the second week in October, not a drop of rain has fallen, and hardly a cloud has been visible in the horizon. It has during all this time, from morning until night, been one continuous beautiful sunshine. The barometer has stood for weeks at an average of 28 inches, and has hardly varied.

In July and part of August our summer would compare favourably with the northern part of the United States. For days and days in July and August the thermometer stood at 28°, which was up among the nineties by Fahrenheit's scale. Generally speaking, when it was so hot in the daytime it was cool and pleasant in the evening. The effect of so much sunshine and so much hot weather has been to make the Grapes both rich and sweet. The quality will be very fine, but the quantity very much less. It is really believed that the produce of this year will not be equal to half of that of 1863 or 1864, which were unfavourable years, having been too wet and cold during those summers.

The wine merchants, however, have a way of making both ends meet, and they are honest enough to own to some very harmless adulterations, such as mixing the sour wines produced in wet years with the sweet wines of warm seasons. They allege, however, that with sufficient age, this mixture becomes very fine wine and very palatable.

The wines of 1865 will only be able to be bought and drunk by princes and "merchant princes."

The dark-skinned Grape generally ripens sooner than the white, but it is not so sweet or fragrant, and, in consequence, it is not so generally produced. The Burgundy Grape is said only to flourish well in clay soils; and from this Grape, which is grown to a small extent in the Rhine Gau and the Palatinate, is made the famous red wine known as Asmanhausen and In-

gelheimer. The people of this country do not drink the red wine so much as the white.

The Hock vineyards do not contain, all told, more than 75 to 80 acres, and in ordinary and good years the produce is not over 800 "stuck," (a stuck is about 1500 bottles), which gives us a total of 900,000 bottles; yet we are assured by reliable men engaged in the wine trade, that there are sold every year at the auctions no less than 6000 stucks, all purporting to be genuine Hock.

The kinds of Grape mostly grown in these great vineyards are the Reisling, Traminer, Gut Edelen, Roland Orleans, Clevern, Fleisch, Oestreith. From the Reisling variety are made those wines so celebrated and well-known throughout the world, such as the Johannisberger, Steinberger, Catinet, Raunthaler, Berg, Liebfraumilch, and Marcobrunner. Very good wines are also made from the Traminer. The Fleisch is a red Grape; the Clevern a reddish purple colour, but is more grown in the Palatinate than here. The Gut Edelen and Fleisch have very thin skins, and are only used as table Grapes. The Reisling never produces in quantity as much juice as any of the other varieties, but it brings a much larger price. The Oestreith seems to be the general favourite for ordinary wines, and from this Grape is made most of the sparkling Hock and Moselle.

For the Johannisberger and other celebrated wines, in consequence of the demand for them, the wine merchants are unable to fill the orders; so they obtain wines produced in other localities, which assimilate to the taste of the respective wines, and label them with these popular names. They are sometimes nearly as good, though an experienced wine merchant will detect the difference at once by the taste, as quickly as he discerns the growth of one year from another.

At most of the hotels the label does not indicate what the wines are, nor, in fact, can they afford them at the ridiculously low prices marked, such as from 15 to 30 cents a-bottle. Poor wine—that is, of a bad year, is even cheaper than vinegar. This latter article ought to be cheap and good in a wine country, but I am sorry to say it is not.—FRANKFORT (in *Cincinnati Gazette*.)

WORK FOR THE WEEK.

KITCHEN GARDEN.

TAKE advantage of dry weather to eradicate weeds. *Asparagus*, as the production of strong heads next spring will depend mainly on the present summer culture, let the beds, after being cleaned, be mulched with short grass or half-rotten manure. Liquid manure, in which a portion of salt has been dissolved, should then be applied freely for the next month or six weeks, or the salt may be spread over the beds, so as to be washed in by the rains and waterings. *Artichokes* (Globe), and *Sea-kale* will be improved by similar treatment. *Celery*, the main crops must now be put out without delay; let the plants be well supplied with pure water, and shaded for a few days if necessary; the early crops should be liberally supplied with liquid manure, and the soil about them frequently stirred with a fork, but by no means make any attempt at moulding them up, until they have nearly attained the desired growth. *Cauliflowers*, water freely. *Carrots*, make a small sowing, if they are in request for drawing young; sow also a few more *Onions* for the same purpose. The Tripoli answers best. The autumn-sown *Onions* transplanted in the spring are very fine this season, and will now be attaining their full growth; as soon as this is perceived, lay the tops down with the back of a wooden rake for some time previous to pulling. *Cabbages*, make another sowing for autumn use. *Lettuce*, water this and *Radishes*, or other vegetables which require being grown quickly to have them crisp and tender. We need scarcely remark, that in all cases vegetables will be improved in size by giving manure water, if it can be procured for all purposes in sufficient quantities. *Peas*, continue to earth-up and stake. The last sowing may be now made; the Early Frame is recommended, but Knight's Dwarf Marrows will also succeed, if the season prove fine. *Potatoes*, the spaces between the rows to be deeply forked up and planted with Brussels Sprouts, Kale, Coleworts, and other winter and spring Greens; they will not interfere with the well-doing of the Potatoes, the lifting of which will be of great benefit to the plants. *Turnips*, keep up good successional sowings; a large breadth may now be put in. Remember that charred refuse suits them well, and that dry wood ashes sprinkled over them when they are wet, is a good preventive against the fly. *Scarlet Runners*, earth-up and stake, unless they are required

dwarf, when the tops should be frequently picked out; but it is always best to stake them, if possible, both for neatness and productiveness. *Salads*, look well to successions. *Tomatoes*, keep them well thinned out and constantly nailed.

FRUIT GARDEN.

The principal operations here will consist in keeping the young wood of wall fruit trees constantly nailed in. The laterals from the young wood of Peaches and Nectarines may be spurred down to the first joint, which spurs will often produce fruit, but do not trust to these laterals for filling up the walls, as they seldom become sufficiently matured to produce good fruit. As many of our improved Pears for the dessert, as well as some other fruits, cannot be produced in proper flavour without an increase of warmth and light, more especially the latter, they will, no doubt, continue to be grown by individuals who esteem horticultural productions not by their mere marketable value irrespective of flavour, but chiefly on account of the latter quality. Limitation at the root, then, we would urge, as we have done before, is the only sure foundation of a dwarfing system, which ought to be, in varied degrees, the guiding principle in all artificial training. As the weather has now set in extremely hot, and is likely to continue so, we strongly advise that all the superfluous breastwood be removed from Pears, or at least pinched off. When the drought begins to affect the root, and intense sunshine prevails overhead for several successive days, a new habit becomes speedily induced in most fruit trees—elaboration begins to reach or overtake absorption. If the trees are very gross, we would advise the taking away as many shoots entirely as will permit the solar rays to visit the bud being organised for a future blossom; the rest may be left as safety valves to decoy away any undue amount of sap in a temporary way, taking care, however, to pinch off their terminal points. The process here recommended is applicable to nearly all our fruit-bearing trees, and is scarcely more difficult than pulling away tall weeds from a bed of Cucumbers, in order to admit the sun's rays to the blossoms, for in such a point of view may the buds of fruit trees in course of organisation be regarded.

FLOWER GARDEN.

If the dry and hot weather continue much watering will be necessary here. Even the ordinary herbaceous plants should have a thorough soaking once or twice a-week. Indeed, it is more necessary with these than with mass flowers, which have now, of course, become well established. The amateur's interest is kept up by the progressive development of the Carnation and Picotee, which now reward all his care and attention by the development of their beauties. The Tulip, Ranunculus, Auricula, and Polyanthus have passed away for the season, and these especial favourites will for a time fill the void. When the shoots are sufficiently long layering may be commenced; this is performed by cutting through the second or third joint, and bringing the knife out on the lower side, so as to make "a tongue." The small portion of stem beyond the joint is cut back to it, and when pegged down in the soil, which should be fine, the layer will there emit roots. The amateur after a few trials will be enabled to perform this operation with facility.

GREENHOUSE AND CONSERVATORY.

Watering in a frequent and methodical way is now a matter of great importance in these structures; indeed, without a proper application of this needful element all other appliances will be of little value. It will be necessary to keep pans of water beneath some pot-bound and needy plants. *Nerium splendens*, when well grown, thrives admirably thus treated. Let all stock for flowering through the dreary winter months receive every attention; grown quickly with frequent stoppings, it will be necessary to have the plants somewhat pot-bound by the end of August and cooled down for a few weeks.

COLD PITS.

The stock here will now be growing freely, and should be frequently examined individually to see that all is going right, for plants when growing rapidly very speedily suffer through any neglect in watering or from the attacks of insects. Examine young specimens that were potted early in the season, and shift at once such as require more pot room, so as to have the pots moderately well filled with roots before winter, in which state they are more easily carried through the winter than when either over or under-potted. *Leschenaultias* should be carefully examined for green fly, and smoked at once if at all infested, and the flowers should be regularly picked off

young plants of these as they appear. *Chorozemas*, *Bossias*, &c., must also be frequently examined for red spider, and should be laid on their sides on a clean mat and thoroughly washed with the syringe, repeating this as often as may be necessary to thoroughly eradicate the pest. Young specimens of valuable hardwooded plants should be carefully trained, keeping the shoots nicely tied out or pegged down in order to secure close, compact foundations, upon which future success very largely depends.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

THE heavy rains had beaten the ground like iron among crops newly sown and planted, and much time has been taken up in forking and hoeing the ground, to let the air in, and to prevent cracking. A few weeks ago we adverted to the importance of a rather firm surface, in order that the ground might become well heated by the sun's rays; but now there is no lack of heat in the soil, and a loose surface is best in every way for the generality of plants, admitting more air to the roots, and keeping out the excessive heat. The drenching rains brought with them whole armies of slugs and snails, that did not show their presence in the dry weather, and dusting with soot, lime, and wood ashes became the order of the day; and not second in importance was a stirring of the surface, first because the slug does not like to be disturbed, and, secondly, because no lady in silk slippers loves more than he a smooth surface. We found the leaves in a piece of fresh-planted Cauliflower well perforated afresh every morning, and yet at our ordinary time of rising (from five to six o'clock) we could not find a trace of a single slug, though the slimy marks of where they had been were conspicuous enough. The ground had been beaten so hard and smooth by the rains, that they had managed to hide themselves beneath the clods of the nearest rough ground before the sun had gained much power. The running the hoe and the points of a fork through such baked ground, and a dusting of soot and lime, make their journeyings anything but pleasant. Buttered or greased young Cabbage leaves, or better still, where they can be obtained, a handful of brewers' grains are great attractions; but considerable experience leads us to the opinion, that if the ground be well stirred and kept rough at the surface all such troublesome fellows will in dug ground bid you goodbye. The most troublesome of all when they take possession are those with longish bodies, black on the top, and yellowish beneath. Soot, lime, ashes, or anything but salt, seems thrown away on their tough skins; but fortunately they have great love for a smooth surface, and after heavy dews or warm rains if found anywhere they will be most plentiful on smooth gravel walks, and the best plan is to pick them up, and put them in a pot in powdered salt. That soon settles them.

Sowed main crops of late Lettuce, Cauliflower, a little Cabbage, and a good piece of Endive, and planted out from previous sowings, choosing chiefly shady positions at present. The north side of a bank is also a good place for sowing Turnips at present. They feel the effects of the heats of autumn less, and eat milder than when fully exposed to the sun. There are many fine Turnips, and some yellow ones, as the Maltese, that can scarcely be surpassed for flavour; but of all Turnips for main table supply commend us to the American Stone or American Red-top. This Turnip is of a purplish colour at top, the lower part is white; but it is all white inside, and so firm, juicy, and sweet, that every cook we know prefers it when it can be obtained to anything else. We have eaten a bit raw with our knife, and thought it much sweeter than many a Melon we have tasted when judging, that looked well and sent out a rich odour, but of which the taste was such that something in the liquid way was sadly wanted to take it away. Wherever many Melons have to be tasted there ought to be a bottle of wine near at hand. For the main features of the kitchen garden, see notices of previous weeks.

One thing we ought to mention, as a mere act of justice to ourselves and others. We have stated the difficulties we have had to surmount with game, and the attendant evils in the shape of out-of-the-way armies of birds of all kinds; these we would find little or no fault with in moderation, as independently of their beauty, their harmony, &c., we do believe that they do us good when they are kept within their proper limits, but they become little better than a plague when they would clear off all the produce, and look for more. We are not the less obliged to the correspondent who uses red lead mixed with

his seed, to keep the birds at bay, though we ourselves have also used it successfully, and, perhaps, too much so, as we have reason to believe that it killed many birds, as well as kept them away. We have no evidence as respects pheasants, but we would be afraid to use it for Peas, if we thought it would injure these birds. If it merely kept them away we would be glad, and would use it largely if similarly circumstanced next year, as though we have long planted out early Peas with advantage, we find that when forced to plant out successional crops they do not thrive like those sown without considerable trouble and labour. In our own case we found it was of no use sowing Peas before May. After that the pheasants did not seem to care about digging them out. Before that nothing, we believe, but small wire netting would have kept them away, and all common netting would be next to useless, if there was a chance of the pheasants being hung in the netting. Would some correspondent tell us if the red lead would be sufficient to keep pheasants from eating the Peas when sown? If they do eat them we expect that they will suffer for it, and that is not what we want.

FRUIT GARDEN.

Much the same as in previous weeks. Look back and notice what was said as to covering the ground for Strawberries to keep them clean. With such wet weather and the heavy crops the rains helped to produce, nothing could have been worse than the grass we largely used, instead of straw or litter. In fine, dry weather it would have been all well. Took off lots of runners, and put into small pots at once to avoid layering. Other departments much the same as previously stated. Figs have been plentiful and fine from the heat.

ORNAMENTAL DEPARTMENT.

Mowed, rolled, and hoed flower-beds, as weeds were coming up plentifully. Potted and repotted, and commenced fresh arranging verandahs and conservatories. The beds in the flower garden will give little trouble, we think, this season.—R. F.

TRADE CATALOGUE RECEIVED.

Henry Cannell, Fuchsia Nursery, Station Road, Woolwich.—Autumn Catalogue of Fuchsias, Verbenas, Petunias, &c.

COVENT GARDEN MARKET.—JULY 14.

SUPPLIES abundant, demand falling off, and we have again to report large arrivals of West Indian Pines and other foreign produce. English Pines are also very plentiful, and in little request at present.

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes	each	0 2 to 0 4	Leeks	bunch	0 3 to 0 0
Asparagus	bundle	6 0 8 0	Lettuce	per score	1 0 1 6
Beans, Broad	bushel	5 0 0 0	Mushrooms	pot	3 0 4 0
Kidney	½ sieve	0 5 0 0	Must.& Cress, punnet		0 2 0 0
Beet, Red	doz.	2 0 3 0	Onions	doz. bunches	4 0 6 0
Broccoli	bundle	0 0 0 0	Parsley	½ sieve	3 0 0 0
Brus. Sprouts ½ sieve		0 1 0 2	Parsnips	doz.	0 9 1 6
Cabbage	doz.	1 0 2 0	Peas	per quart	0 9 1 3
Cauliflowers	100	0 0 4 0	Potatoes	bushel	2 6 7 0
Carrots	bunch	0 4 0 8	Kidney	do.	8 0 10 0
Cauliflower	doz.	2 0 3 0	Radishes	doz. hands	0 6 1 0
Celery	bunch	0 4 1 0	Rhubarb	bundle	0 4 0 8
Cucumbers	each	0 0 0 0	Savoy	doz.	0 0 0 0
pickling	doz.	2 0 0 0	Sea-Kale	basket	0 0 0 8
Fennel	doz.	0 3 0 0	Shallots	lb.	0 8 0 0
Garlic	bunch	0 2 0 0	Spinach	bushel	2 0 3 0
Herbs	lb.	1 0 0 0	Tomatoes	per doz.	0 4 0 0
Horseradish	bunch	0 8 0 0	Turnips	bunch	0 4 0 6
bundle		2 6 4 0	Vegetable Marrows dz.		0 9 1 0

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples	½ sieve	0 0 to 0 0	Melons	each	4 0 to 8 0
Apricots	doz.	2 0 4 0	Nectarines	doz.	6 0 12 0
Cherries	lb.	0 6 1 6	Oranges	100	6 0 12 0
Chestnuts	bush.	0 0 0 0	Peaches	doz.	10 0 15 0
Currants	½ sieve	5 0 6 0	Pears (dessert)	doz.	0 0 0 0
Black	do.	0 0 0 0	kitchen	doz.	0 0 0 0
Figs	doz.	8 0 15 0	Pine Apples	lb.	8 0 6 0
Filberts	lb.	0 0 0 0	Plums	½ sieve	0 0 0 0
Cobs	100 lbs.	0 0 0 0	Quinces	½ sieve	0 0 0 0
Gooseberries	quart	0 4 0 6	Raspberries	lb.	0 0 0 0
Grapes, Hothouse	lb.	3 0 5 0	Strawberries	lb.	0 6 1 0
Lemons	100	6 0 10 0	Walnuts	bush.	14 0 20 0

TO CORRESPONDENTS.

*. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All

communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

FUCHSIAS (R. H.).—There are far too many varieties nearly alike, and especially of the strains like the specimens sent, for us to be able to name them.

CLIMBER FOR CONSERVATORY (J. J. J.).—We think *Bomarea multiflora*, a handsome climber, with deep yellow flowers spotted with crimson, would answer your purpose. *Taesonis mollissima* will not do out of doors, nor on the back of the conservatory if at all shaded by plants in front.

REPORTING CAMELLIA (Idem).—It will not only be advisable, but absolutely necessary to repot a Camellia, the pot of which is very heavy, and almost black with moss, for this shows the drainage to be bad, and the soil sour. After turning the plant out of the pot, pick away the old soil without disturbing or breaking the very tender fibres, remove the old drainage, afford a clean pot, and drain well. Use for potting a compost of two-thirds turfy loam, chopped with a spade, and one-third sandy peat, adding one-sixth of silver sand. Do not shift into too large a pot, but one which will hold the roots without cramping.

STRAWBERRIES (Mallow).—The following, extracted from "Hogg's Fruit Manual," are the descriptions you ask for:—"Sir Harry.—Fruit very large, roundish, irregular, frequently cockscomb-shaped. Seeds large, and deeply embedded. Skin dark crimson, becoming almost black when fully ripe. Flesh dark red, not very firm, but tender, very juicy, and richly flavoured." "Old Pine (Black Pine; Carolina; Scarlet Pine).—Fruit medium-sized, ovate, even and regular, and with a glossy neck. Seeds prominent. Skin deep red. Flesh pale red, very firm and solid, with a fine sprightly and very rich Pine flavour. After all there are very few that equal, far less surpass, the Old Pine in flavour, but it is not a good bearer." "British Queen (Myatt's British Queen).—Fruit large, sometimes very large, roundish, flattened, and cockscomb-shaped, the smaller fruit ovate or conical. Skin pale red, colouring unequally, being frequently white or greenish-white at the apex. Flesh white, firm, juicy, and with a remarkably rich and exquisite flavour. The great fault of this variety is that the plant is so very tender; it will not succeed in all soils and situations, and it is generally an indifferent bearer." "Frogmore Late Pine.—Fruit very large, conical, and cockscomb-shaped, with a glossy neck like the Old Pine. Seeds not deeply embedded. Skin glossy, bright red, becoming dark red, and almost black when ripe. Flesh tender and very juicy, red throughout, richly flavoured, and a good deal of the Pine aroma when well ripened. This is a late variety, and an abundant bearer, coming in with the Elton, but much less acid than that variety." "Oscar.—Fruit large, ovate, and angular, sometimes flattened and wedge-shaped. Seeds rather large and deeply embedded, which give the surface a coarse appearance. Skin dark shining red, becoming almost black when fully ripe. Flesh red throughout, very firm and solid, juicy, and richly flavoured. An excellent variety for a general crop, coming in a few days after Black Prince; a most abundant bearer, and, from its firmness, bears carriage well." "Rifeman (Ingram's).—Fruit very large, ovate or cockscomb-shaped, and corrugated. Skin bright salmon-coloured. Seeds prominent. Flesh solid, white, firm, juicy, richly flavoured. The plant is of vigorous habit of growth, and is an abundant bearer." "Wonderful (Jeyes' Wonderful; Myatt's Prolific).—Fruit large, conical, frequently cockscomb-shaped, and fingered. Skin pale red, and whitish at the apex. Seeds numerous and prominent. Flesh white, tender, melting, juicy, and sweet, briskly flavoured, and with a fine aroma. A very excellent fruit, which forces well." "La Constante.—Fruit large, conical, and regularly formed. Seeds not deeply embedded. Skin of a brilliant lively crimson. Flesh white, with a rosy tinge, firm, juicy, richly flavoured, and with a fine piquancy. A first-rate Strawberry, and an abundant bearer. When forced it bears abundantly, and preserves its flavour well." The Geranium seedlings from Malta will probably not be of any value.

VINE LEAVES (Vitis).—We could not find a single red spider on the leaves, but there were marks that led us to the conclusion that either red spider or thrips had been present, but in very small numbers. The traces of mildew were even less apparent. If you are convinced that it exists, which we are not, plenty of air, and sulphur on the walls, stages, &c., will be your best help. There are traces of warts on the leaves, and scalded spots, and the best remedy for both is more air, and that given early enough to prevent the moisture in the house being turned into hot vapour. Last week you would see what was said about thrips and red spider, and both may be easily discerned. At present we think you chiefly want more air and that given, especially at the back, before the sun strikes the house. You must, however, judge for yourself, for leaves sent in a letter seldom have the insects, which might have molested them at home.

MILDREW ON PEACH LEAVES (G. F.).—The white down along the midrib on the under side of your leaves is a parasitical fungus. Dust under the leaves with flowers of sulphur, allow the sulphur to remain on the leaves for two or three days, and then syringe. If needed repeat the application of the sulphur. Do you mulch the surface of the earth in the pots, water freely, and admit air abundantly day and night? This treatment is all-essential for successful culture of fruit trees in orchard-houses during this hot dry weather.

GRAPES SPOTTED (A Constant Subscriber).—"The spot," as gardeners call the ulcer which has attacked your Muscat of Alexandria Grapes, is caused by want of root-action. Remove the soil from over the roots, replace it, not more than 6 inches deep, by a compost of one-third decayed stable dung, and two thirds light soil. Water the roots freely with tepid water every second day; and admit air night and day during this hot weather.

CALADIUMS (*Mrs H.*).—For exhibition, in addition to *Caladium argyrætes*, *Chantini*, *bicolor magnifica*, and *Wightii*, *Caladiums Brogniarti*, *Bellegmei*, *Seraquini*, *mirabile*, and *Leopoldi*, are desirable.

STRAWBERRIES (*M. C.*).—The post-office officials had smashed the paper box into one mass, and we could hardly discern your initials. Fruits must be enclosed in a wooden or tin box, and kept separate from each other by freshly gathered leaves.

NAMES OF FRUIT (*J. H.*).—The contents of both boxes were British Queen Strawberry. Its characters are given in the previous page. It is a variety which any nurseryman ought to be able to supply true. You will find in another column remarks by the Rev. W. F. Hadclyffe on the subject of Strawberries.

NAMES OF PLANTS (*M. B., Staffordshire*).—*Fumaria officinalis*, common Fumitory.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending July 14th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun... 8	30.181	80.084	68	55	64	60	S.W.	.08	Densely overcast; slight rain at night.
Mon... 9	30.198	80.080	79	54	64	60	S.W.	.10	Overcast; fine; very fine; warm at night.
Tues... 10	30.266	80.250	85	50	65	60	W.	.00	Very fine, dry air; very hot sun; exceedingly fine.
Wed... 11	30.286	80.230	82	46	66	61	N.E.	.00	Very fine; dry uniform haze; hot; very fine.
Thurs... 12	30.183	80.072	89	58	68	62	S.	.00	Slight haze; hot and dry; very fine; hot at night.
Fri... 13	30.044	80.920	84	52	68	62	S.W.	.00	Very hot; fine throughout.
Sat... 14	30.111	80.094	86	51	68	68	S.	.00	Slight haze; very fine; hot and dry; very fine.
Mean	30.178	80.108	81.86	51.86	66.14	61.14	..	0.08	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

MOULTING.

We have often looked with interest at the moulting of fowls—the process of putting off the spring and summer clothing, and remaking that which will be useful in the winter. Our handsomest favourites are now what our man calls “getting seedy.” The Spanish plumage has lost its gloss; the combs no longer feel like velvet to the touch, and there is an inclination in the white face to narrow its size. The accurate pencilling of our Brahmas is lost in a dingy, mossy, rusty colour. Our Dorkings have lost not only the appearance, but the reality of their weight. Our Ducks and drakes are all alike, and the gaudy Golden Pheasant of last month shows only here and there remains of his old beauty, looking like “the George,” hanging on the post of the attic bed, among the torn and shabby furniture in the painting of “The Last Days of Buckingham.” They have all done their duty. They have laid, and reared their broods, and now when the pullets are beginning to supply eggs, the old birds ask for their natural rest. We are too often prone to forget that this rest is necessary for them—indeed, essential. They are preparing for next season. During the remainder of the summer they will be recruiting the strength that will enable them to form new clothing. The shabby, worn-out plumage of the summer, the naked backs, and broken feathers, would be but poor helps during the cold days and long nights of winter.

We are led to this subject by the numerous letters on moulting which we receive at this season. Fowls have hardly yet begun, but where they have left off laying, the approach may be easily seen. Some seem to have much greater difficulty than others. Spanish are a long time naked. All the non-sitters feather more slowly than the others. It may be because they lay a greater number of eggs, and that the production of them causes more exhaustion of the system than the twenty-one days of the sitters. Certain it is, however, that moulting is an effort, and taxes the bird so much, that at such a time any old weakness or partially cured disease is sure to show itself again. Thus, years ago, when roup was so common and fatal, wherever it had been in a yard, it always reappeared at moulting-time.

The feathers are at first but small blue stubs in the skin; the end is very soft, pulpy, and bleeding; it shows itself through the hole in the skin, which is ready to let it pass, and is then a perfectly round blue tube. This grows both in length and rotundity. If one of them be pulled out and examined shortly before it opens or bursts, the feather will be found beautifully rolled up, but the quill is not formed. After the feather has shown itself, the end still retains its pulpy and bleeding appearance; through it the feather derives the sustenance from the body of the bird, which is necessary for its development. As soon as it is fully formed, the end hardens and becomes the quill. There is no growth or reparative process after this. If the feather be broken or cut off, the quill will remain till the moulting season comes round again. The body, however, cannot go on producing fresh feathers. If a

particular feather be pulled out of a black-plumaged bird as fast as it is formed, it gives evidence of weakness by coming white.

No men have ever studied fowls so closely as those who bred and trained Game cocks. They never dub a bird—i.e., remove his comb, deaf-ear, and gills, while he has any soft feathers about him. He is not in a state of strength to bear the operation. Birds that have their full liberty, and are well fed, always moult well, but when they are kept in confinement, care and precaution are sometimes, not always, necessary. The effect of food may be proved by a fact. Quails and bullfinches are exceedingly fond of hempseed. This is of a very heating nature, and if they are allowed to eat too much of it their plumage becomes nearly black. If they are fed entirely on it their bodies are so heated that they moult with great difficulty, and their flight feathers do not form at all. The system of the bird becomes so heated that everything is dried up, and no nourishment is possible. The feathers, like plants, die for lack of moisture. If improper food have this effect, then judicious feeding ought to assist. We have already said that if the birds are at liberty they will find all they require; but if they are shut up they must have plenty of cooling food. We know none so good as lettuce, and if it has gone to seed and is stalky so much the better. Sods of growing grass, and plenty of fresh mould with them, are also excellent. One thing requires to be watched—they will sometimes in a dissatisfied habit of body begin to peck and eat each other's feathers. If a fowl do this it should be at once removed, as it will not only spoil the plumage of the others, but it will teach them the same habit. When a bare spot appears on a fowl it should be rubbed with grease which is quite free from salt.

Sometimes a fowl will be seen while moulting to be continually picking or scratching at one spot of its body. On examination it will be found that one or more feathers have failed in passing through the opening in the skin that is provided for the purpose. They keep on growing, but they grow under the skin, looking like a worm beneath it. This causes much pain. It is common in the top-knots of Polands. The remedy is a very easy one. Take a stout needle and pass it under the quill-end of the covered feather, then draw the feather from under the skin.

WHITE COCHIN-CHINAS.

“A love of Cochins no cold medium knows.”

Do insert these few lines in answer to “WILTSHIRE RECTOR,” who cannot know how beautiful White Cochins are. They are the most profitable poultry I ever kept; laying abundantly winter and summer. They are, too, the best of mothers, and will lay again in a fortnight after bringing off a brood.

I have upwards of two hundred of their chickens this season. I am quite sorry to hear “WILTSHIRE RECTOR” speak of them in the terms he does. He cannot mean pure-bred White Cochins, for they are most beautiful. I suppose his were very old, and a mongrel breed, to be such horrid frights as he describes them in your Journal of the 10th.

For table there is none to equal a fine young Cochin roasted; so “WILTSHIRE RECTOR” must allude to an old tough hen, to

which he invites the Editors to dinner. I should be most happy, if you will pay a visit to Bedford, to show you my Cochins, and also to have some for dinner—but no "WILTSHIRE RECTOR."—E. CLARKE, *Ivy House, Bedford.*

[We beg "WILTSHIRE RECTOR" to remember that this is warm weather—extremely hot, in fact—we further beg him to remember that no lady will endure distraction of her pets; and, lastly, we beg him to remember the proverb of this lady's county, "Men's minds, crooked as Crawley Brook," so his judgment may be atwist. Thus remembering, he will reply mildly—and ask permission to accompany us to the dinner at Ivy House—and when asked to return thanks after the repast, he will not use the formula—

"For Cochins leggy, dry, and tough,
I'm thankful—but I've had enough."]

FOWLS YOU SHOULD KEEP.

MARCH 3rd.—Sat thirteen eggs, hatched twelve, reared nine; cat killed three.

JUNE 6th.—Sat fifteen eggs, hatched thirteen; twelve living. Both these sittings were from the same Dorking hen, the old rooster's particular favourite.

I never yet to my knowledge had a hen eat her eggs. I am very careful in supplying my fowls with plenty of green meat, builder's rubbish, and clean pump water daily. I do not now give meat or "bones to pick. I make my hens' nests in a secluded corner of an outhouse as follows:—I make a slight hollow in the ground, take some rather stiff earth, and beat it into the hollow with the fist until firm and smooth. I then place clean straw, regulating the quantity according to the time of year, very little being used with the June sitting. I lift my sitting hen off at the same time every morning, provide her with a dust bath, clean water, and food (whole barley or fig dust), and before she is allowed to return to her nest I place her on the wet grass, so that her feet and under feathers may be slightly damped: this plan I prefer to sprinkling the eggs.

The best layers which I have ever had came from some eggs purchased at a farmhouse, where they told me Cochins, Spanish, and Dorkings had been allowed to run together.

I submit that as distinct breeds Dorkings and Brahmas are very profitable, but a cross between these two would give a still better return. My egg return for the last six months gives the following:—January, 65; February, 68; March, 77; April, 62; May, 78; June, 58. Stock, 4 Dorkings and 2 Brahmas. Dorking cock.—J. M. S.

WOODHORN AND NEWBIGGIN POULTRY SHOW.

THE first Exhibition of the Woodhorn and Newbiggin Poultry and Pigeon Show was held in a large marquee erected on a choice site at Newbiggin-by-the-Sea, on Saturday, the 7th inst. Although it is only about six or seven weeks since the idea of holding a poultry show at the above place was first mooted, yet all parties interested in its success bestirred themselves most energetically, and we are glad to say their efforts were well rewarded. The gentry and inhabitants of the district supported it in a most substantial manner. The Committee have no doubt that they will be enabled to double the money value of the prizes at the next show, as well as to offer silver cups for certain classes. Many of the birds shown had taken prizes at the Bath and West of England Show recently held at Salisbury, and at others of the principal shows in the kingdom. A magnificent pair of Buff Cochins—Chinas and a pen of Game Bantams from Mr. Edward Fearon, of Whitehaven, arrived, we are sorry to say, too late for competition. The total number of entries was 117, one only of which was for Pigeons. The following is a list of the prizetakers:—

GAME (Duckwing).—First, H. Rogers, Bedlington Colliery. Second, P. Wilkinson, Bedlington.

GAME (Black-breasted and other Reds).—First, G. Joisce, Bedlington. Second, H. Rogers.

GAME (Any other variety).—First, J. Achincloss, Barrington Colliery. Second, J. Muter, Newbiggin-by-the-Sea. *Hca.*—First, H. Rogers. Second, R. Wallis, Netherton Colliery.

HAMBURGERS (Golden-pencilled).—First, A. K. Wood, Burneside, Kendal. Second, J. Smith, Netherton.

HAMBURGERS (Silver-pencilled).—First, A. K. Wood. Second, J. Sim, Crumlington.

HAMBURGERS (Golden-spangled).—First, J. Achincloss. Second, J. Sim.

HAMBURGERS (Silver-spangled).—First, A. K. Wood. Second, J. Martin, Cowpen Colliery.

DORKINGS (Coloured).—First, Miss Wilson, Woodhorn. Second, J. Graham, Durham. *Chickens.*—First and Second, J. Graham.

DORKING HEN (Any variety).—First, Miss Wilson. Second, J. Graham.

DORKINGS (White).—First, F. E. Schofield, Morpeth. Second, G. Joisce.

SPANISH (Black).—First, J. Taylor, Newbiggin-by-the-Sea. Second, J. Stalker, Sleekburn Colliery. *Chickens.*—First, M. Gibson, Woodhorn.

BRAMA FOOTRAS.—First, Mrs. Chriss, Hawkhill. Second, J. O'Leary, High Trewith, Rothbury.

BARN-DOOR FOWL.—First, R. Burn, Newbiggin-by-the-Sea. Second, Mrs. Shanks, Newbiggin-by-the-Sea.

ANY OTHER VARIETY NOT MENTIONED EXCEPT BANTAMS.—Prize, T. Finlay, Newbiggin-by-the-Sea.

GAME BANTAMS (Black-breasted and other Red).—First, T. C. Harrison, Hull. Second, W. Davison, Rebside Colliery. Highly Commended, Miss S. F. Wilson, Woodhorn; G. Dowie, Netherton.

GAME (Any other variety).—First, Miss Wilson. Second, J. Sim.

BANTAMS (Any other variety).—First, T. O. Harrison. Second, Miss S. F. Wilson.

GUINNA FOWL.—First, T. C. Harrison. Second, G. Johnson, Barrington Colliery.

PEACOCKS.—First, Mrs. Parker, Newcastle. Second, O. Richardson, Newbiggin-by-the-Sea.

TURKEYS.—First, Miss Wilson. Second, Miss S. F. Wilson.

GREEN.—First, J. Angus, jun., Morpeth. Second, Miss Wilson.

DUCKS (Aylesbury).—First, J. Maughan, Newbiggin-by-the-Sea. Second, J. Taylor.

DUCKS (Rouen).—First, Mrs. Wilson, Woodhorn. Second, J. O'Leary.

DUCKS (Any other variety).—First, R. S. Bainbridge, Woodhorn Grange. Second, T. O. Harrison.

JACOBS.—Prize, J. Willis, Woodhorn.

Mr. W. Trotter, of South Acomb, Bywells, Stocksfield, officiated as Judge.

A MASCULINE HEN.

THE following is my brother's account of a mule bird which is stuffed, and stands in his hall at Hyde, Bere Regis, Blandford, Dorset.—W. F. RADCLIFFE.

"All I can remember about the mule bird is, that she is half Bantam, and was kept for twelve years to breed Pheasants up. About the ninth year we observed a couple of tail feathers curled like a cock's long tail feathers, and some appearance of the cock's hackle about the neck, and on the rump. Next year her plumage became more decidedly like a cock's. She put on two more curled feathers in the tail, and the hackle on the neck and rump were more decided. She did not lay after the first appearance of the male plumage. She crowed something like a cock; and the labourers, to whom she was well known, say they saw her exhibit other masculine propensities. Spurs appeared about the commencement of the change. On opening her body the whole of the ovaries were found to be completely ossified. The man who stuffed her showed her to a member of the British Museum, who heard my statement, which he said was quite correct. Up to that time no one believed the stuffer, but thought that it was a cock bird. However, this person said, 'Look at her comb, and there can be no doubt.' I would give her to any public institution. If living she would be thirty years old. The bird died in moulting at twelve years old."—C. J. RADCLIFFE.

P.S.—I beg in my brother's name to put the destination of the bird for a public institution.—South Kensington Museum for choice—into the hands of the Editors of THE JOURNAL OF HORTICULTURE.—W. F. RADCLIFFE.

SUCCESSFUL FOWL CULTURE.

SEEING the long catalogue of "Failures in Hatching" in your Number for July 3rd, I thought an experience of somewhat different character might serve to encourage my more unfortunate brother amateurs still to persevere.

My adult stock consisted at the beginning of the season of three Brahmas, two Cochins, and two Game hens about nine months old, two Game and two cross-bred hens two years old, one Brahma cock one year old, one ditto nine months old.

From February 10th to June 23rd I set 163 eggs under eleven hens, hatched ninety chickens, and lost sixty-three eggs as follows:—Six stolen, five chicks dead in shell, fifty-two bad. Of these last, forty-four were purchased eggs obtained from noted breeders who regularly advertise in the Journal; eighty-nine eggs were from my own fowls, of which only fourteen were bad; the loss has been in the purchased eggs. How is it that they so often turn out bad? Is it owing to the birds moving frequently from show to show? If so, is there no remedy for this disappointment and loss?

My chickens are all well. I always attend to them myself the first thing in the morning, and give them generally barley-meal made stiff, in which I always put a little of Day's Game paste, taking care to wash out the pans and give them fresh

water. The result is, that they are all thriving, and I have not had one case of gapes this season.

I am convinced that poultry properly attended to is not only a pleasure to keep, but a source of no small profit, though, by-the-by, I do not think I shall purchase so many eggs next year. I have a small orchard, about half an acre, which I divided in two parts, keeping one exclusively for chickens.—AN EIGHTEEN-MONTHS AMATEUR, *S. Devon*.

NOTES ON BIRDS OF PREY IN ESSEX.—No. 1.

A Royal Eagle was shot about twenty years ago in Takeley Forest, and I remember one being shot at Waltham Abbey, in the marshes.

The Osprey or Fishing Eagle.—A very fine one once lived for two or three years about Latton and Nettleswell. I have sometimes been very near to it. I do not know what became of it at last. One has since been shot at Pishiobury.

Kites formerly existed at Great Parndon; they used to breed in Parndon woods, but they are all destroyed.

The Moor Buzzard.—There used to be a tract of boggy ground, with several woods, extending from Latton Mill to Burnt Mill, and I have there seen this rare bird twice or thrice, but have not known it to continue there.

Common Buzzards were so frequent that I have seen them alight on the barn at the place where I lived, and they were almost continually to be seen sailing over the meadows. They used to breed in Latton and Nettleswell woods. Not one now remains.

Goshawks used to breed in Hyde Hall wood.

The Sparrow Hawk.—This active and interesting bird is now very seldom seen; but at one time it was frequent. If the farmers execrate the sparrows they should preserve this Hawk, as its food consists almost exclusively of sparrows.

The Lanner.—I once saw this large Hawk in Hyde Hall wood, and I have seen it both in Harlow and Latton Park woods, but it has always been very rare.

The Peregrine Falcon.—This has been shot in Stanstead Marsh and in Gilston Park, and I have seen it in Epping Forest.

The Kestrel, or Hovering Hawk.—This beautiful and interesting little bird used to enliven the country by its pretty hovering and its plaintive note; but it is now nearly exterminated by the game-keepers, although it does not meddle with any kind of game. No bird is of greater service to the farmer, for if mice are not exclusively its food they are very nearly so. It enters barns and other outbuildings, where not too public, in the same manner as owls; and wherever this bird's nest used to be found (generally in the old nest of a crow or magpie); it was invariably lined with the skins of mice. In spite, however, of all its services and its beauty, it has gone—been destroyed by the keepers.

The Hobby.—This small Hawk was more rare than either of the preceding, and appeared to prey mostly on the larger insects, as it was generally seen hawking round trees or darting very rapidly along. It also kept itself more secluded in woods.

The Merlin, the smallest of the native Hawks, is very rare, and is said to be migratory, arriving in this country in October; but a nest with two young ones was once taken in Ongar Park Wood, and I had the care of one of the young birds for some months. One, a few years since, chased a sparrow into a greenhouse, at Sheering, and was caught, and of course was killed by the ignorant fellow who caught it.

The above are all the species of the Falcon tribe with which I am acquainted.—D. S. FRENCH.

[The foregoing are a portion of a few pages of MS. (we wish they were many more), written by an old man long resident on the western borders of Essex, who, though slightly educated, was a good botanist and ornithologist. They are the mere records of his own observations, yet are very interesting, and are all that remain of their author's writings. He has recently died.]

TAVISTOCK POULTRY SHOW.—The Committee have done wisely to alter their first proposal—namely, that exhibitors were to find their own pens. The Committee will find the pens, charging 6d. for each; but there are no entry-fees. The Committee will be obliged by the loan of ornamental poultry or birds not intended for competition.

BEEES DYING OF DYSENTERY.

ALL the bees in one of my hives are dying, and I should be very much obliged if you could tell me what to do with them. It is a May swarm which was taken in a straw hive, and which I afterwards chloroformed and put into an Ayrshire wooden hive. The weather was very wet at the time, and the hive got wet and mouldy inside. I brought them into the house, took out the slides, put a piece of gauze on the top so as to ventilate them, and gave them some barley sugar. After a couple of days the bees seemed all right, and I put the hive out again. This was between three and four weeks ago. They are now dying by hundreds, and the rest seem to be listlessly hanging together doing nothing. Yesterday I removed them to a clean floor-board, taking away all the dead, and to-day the floor-board is again covered with dead, also the ground in front of the hive. Where each one dies there is a large drop of stuff the colour of yellow ochre, some of which I enclose in a leaf.

Can you suggest any reason for their dying, or anything to do with them? Can there be anything poisonous in the ordinary barley sugar sold in shops? I was surprised also to see a lot of earwigs in the hive. How is it the bees allow them?—G. THURLOW, *Buckland, near Dover*.

[Your bees appear to be suffering from dysentery arising probably in the first instance from the injurious effects of chloroform, and aggravated by their being subsequently fed whilst confined to their hive. There is nothing poisonous in ordinary barley sugar. If the present glorious weather fails to ameliorate the disease, we should very much fear that it is incurable. Have you made trial of the remedy to which you referred, and of which you spoke so favourably in page 282 of our eighth volume?]

LIGURIANS IN STAFFORDSHIRE—BRES AS REGICIDES.

ALL the young Ligurian queens I reared last season (nine in number) lived safely through the winter, and in every instance, although several must have been rendered fertile by black drones, all their progeny are beautifully-marked Italians. I saw the original queen this morning, and she still seems to be in full vigour, and has filled her hive with a vast deal of brood.

Dr. Bevan observes that storified hives seldom swarm. My experience is, that with Italian bees, they almost invariably swarm, in spite of every precaution.

I have this season adopted the plan recommended by "A RENFREWSHIRE BEE-KEEPER"—i.e., a super with guide combs has first been placed over the stock, and in a few days (after the bees have fairly entered, and commenced to work), a nadir has been placed under the stock hive. A second shallow super was in due course placed over the first super, and in a few days a second nadir under the stock, and finally a third addition was made to the super; but in spite of all this accommodation, before the first super was completed a vast swarm issued forth on Sunday last (June 24th), and out of four hives similarly treated only one has abstained from swarming.

A curious case of swarming occurred the day before yesterday (June 26). A fortnight ago I made a swarm by removing the queen and a large portion of the bees from a frame hive, and putting them into an ordinary cottager's hive furnished with empty comb. A frame containing two or three nearly mature royal cells was inserted into the stock, and one of these duly produced a queen, and I considered the hive secure from swarming, having removed all the native royal cells a day or two after the Italian cells had been introduced.

On the 26th of June, however, the hive swarmed at about 10 A.M., the bees remained quiet after being hived until about 4 o'clock, when they seemed to have lost their queen. (I had in the meantime examined the stock carefully, and failed to find either queen or tenanted royal cell, and did not think they had a queen). I turned up the hive in which the swarm had been hived, and soon espied a deadly knot of regicides. I took them out and pulled off the assailants one by one, until I had released the queen; but as she was a very small one, and was a good deal misshapen about the abdomen (the result, I believe, of the murderous attack she had experienced), I at once crushed her, and allowed the bees to return home; this they did almost at once, showing that no second queen had accompanied the swarm. I believe the queen was impregnated; she was nine or ten days old.

Yesterday (June 27th) I found that a swarm had issued from

a nucleus, and wishing to obtain the young queen, only just matured, for another hive, and at the same time compel the swarm to return home, I turned up the hive in which the swarm was, but after looking about for some time, as the queen did not turn up, I began to examine the mass in detail, and observing a rather dense cluster near the centre, rolled it out, and found, as I expected, that the young queen was incarcerated, exactly as in the previous instance. I removed her assailants one by one, and was glad to find the queen uninjured, and I succeeded in introducing her to another nucleus, which had either destroyed or lost its own queen some time before. The bees soon returned home, proving that they had not a more favoured monarch left with them. I have lost several young queens this season, but only one in 1885.

How is it possible to account for this apparent perversion of instinct? The weather is fine, and honey most abundant, and yet my bees have in several instances destroyed young queens which they themselves have reared and tended.—J. E. B.

APIARIANS BEWARE!

THE foes of your favourites are increasing. Sparrows as well as tom-tits are arrayed against you, and last, though not least, the cuckoo. The parish schoolmaster of Lochmaben has had a whole hive of bees destroyed in little more than one day by a cuckoo, which was encouraged to visit his garden; and two or three other hives in the vicinity have been ruined by the same enemy, so I am assured. That eminent naturalist Sir William Jardine believes the cuckoo will eat bees, and has sent an account of the above-mentioned facts to the "Science Gossip Journal." Now, without calling in question the veracity of any person, I beg to state as my opinion, that neither the sparrow nor the cuckoo is an enemy of the bee. I imagine the Lochmaben hives perished by famine, and that the dying bees were simply appropriated as legitimate food by the cuckoo. Sparrows abound in my apiary, and though they may occasionally destroy a bee, their chief employment consists in catching flies that torment the hives.

If "A BLACKHEATH'AN" will take the trouble of opening the stomachs of the progeny of apical sparrows, I am convinced he will desist from the war of extermination which he has begun to wage on a class of birds that do much good and little injury in the garden.—R. S.

UNITING BEES—MANY QUESTIONS.

WILL you inform me as to the course I ought to have pursued with my bees? On Saturday, the 7th inst., those in a Neighbour's hive swarmed for a second time, not having taken to the supers put on. I tried to unite the swarm with a first swarm from a common straw hive, and which was in a tan-bar hive (they swarmed exactly two weeks before the others); but the bees in the bar hive have killed all the others.

The mode in which we endeavoured to unite the swarms was as follows:—On Saturday night, about a quarter to ten o'clock (as recommended in the "Bee Manual"), an hour and a half after sunset, we took the new swarm, and, having spread a cloth on the ground, knocked the bees out on the cloth, and then began looking for the queen, but as we could not find her, we took the bar hive, and leaving its floor-board behind, put it on the top of the bees on the cloth. We then left them to rise into the hive, and join the other bees; and this we expected they would do. The bar hive has three bars full of comb, and partly sealed. Then in the morning, about a quarter to four o'clock, we returned the bar hive to the floor-board and to the stand, but when we came to look at the cloth there seemed to be as many bees under where the hive had stood as the night before; so we put them on the floor-board, and fastened the hive down; but all the day (Sunday) the inmates were carrying out bees either dead or alive, and the ground was covered with the dead and dying. I forgot to state that we found the queen in the morning, after we had removed most of the bees to the floor-board.

Did I pursue the right course in looking for the queen? and would the union have been all right if I had found her on the Saturday evening? If not, what reason do you assign for the bees killing the new swarm? We have the queen under a glass, will it be of any use to keep her? Should covers to hives be of a light or a dark colour? Why did not the bees in the Neighbour's hive take to the supers? Do you think, as I imagine, that we put on the supers rather too early? The bees,

however, went up into them, and filled them, but did no work; but when the bees swarmed the first time they left them quite empty, and I found a little bit of comb at the bottom of each glass, of which there were three. Are Ligurian queens desirable? Could I take the honey from two common straw hives, and put the bees in a bar hive, adding to them a swarm which came off to-day and another which I expect soon? and when would be the right time to do so? I do not like killing the bees to take the honey. Would it be well to add any more bees to the swarm in the bar hive: a second swarm, or one lot of the old bees—that is, a swarm of last year? One of the straw hives has swarmed twice, and the other once, and this is the one that I expect will again. I have three or four times had to straighten the comb on the bars, how is this to be obviated, for the bees do not seem to care about building straight? Of course when I see to it I am attacked accordingly. I weighed the bar hive before I tried to unite the swarm, and it had gained nothing, so that I conclude the inmates must have killed all the new comers. Is it necessary in catching a swarm of bees to smear the inside of the hive with syrup of some sort? Have the Neighbour's cottage hives enough ventilation, for the top only ventilates the supers? Do bees dislike large glass windows in the sides of their hives, with a door to keep the light out? How far do bees generally go to fetch honey? Does taking out the bars to look at them injure the young bees? and how long does it take to hatch out brood? Will this year's swarms have any young bees before autumn? Is there more than one sort of common bee? I do not mean drones but workers, for some hives seem to have larger bees than others.—G. J.

P.S.—Do any drones go off with second and third swarms?

[We can scarcely tell why the attempted union turned out so complete a failure. Another time and under apparently precisely similar circumstances you may be equally successful. The use of a little smoke, and sprinkling both lots of bees with syrup scented by the addition of a little peppermint water would render future success more probable. The queen of a second swarm not being fertilised would be of little use to an expert, to you she is of no value whatever. A light colour is the best for hive covers. If the supers had been furnished with some pieces of clean comb the bees would have been more likely to have taken to them. We have no doubt as to the superiority of Ligurian queens. The best time for driving the bees and taking the honey from your two common hives would be three weeks after the issue of the first swarm in each case, as all the brood from the old queen (with the exception, perhaps, of a few drones) would then be hatched out, whilst the young queen would scarcely have commenced egg-laying. If the inhabitants of the two hives do not form a sufficient population, you may add a swarm, or perhaps we should rather say, add them to a swarm, as the best way would probably be to drive them at once from their own hives up into that containing the swarm. We always superintend the formation of combs ourselves by examining them occasionally whilst in progress, and correcting irregularities as they arise. We should not at this time attempt to add more bees to the hive which has evinced so decided a disinclination to fraternise with the reinforcement you have already offered to it. Smearing the inside of hives with honey or syrup of any kind is, we believe, quite unnecessary. Extra ventilation when necessary may be given to storified hives by wedging up the supers about the eighth of an inch, as well as by raising the front of the hive itself a little from its floor-board. Large windows are great evils in bee-hives from their tendency to promote the condensation of internal moisture. We believe from a mile to a mile and a half to be about the limit of the profitable flight of the bee. Workers mature in about twenty-one days, and a hive containing a swarm of this season will be left in the autumn almost entirely in the possession of young bees bred since it was tenanted. There is but one kind of hive bee indigenous in this country; any variation in the size of workers is, therefore, accidental. Drones generally accompany both second and third swarms.]

SUPERSTITIONS ABOUT BEES.

SOME time ago a man brought a second swarm of bees to my employer's apiary. When about to leave them he tapped the hive and said, "Bees! bees! I have brought you to work for a new master; be industrious." I asked him if he thought the bees could understand him, and he said he always did it;

also, that it is the custom when any one of their owner's family dies to tell them, or else they would die too.

I laughed at his notions, thinking it was an exceptional case, when next day another man told me much the same tale. I asked him for a proof of his theory, for although he had told his bees his father was dead, they all died.

He said that if the bees settled on dead wood it was a sign of some one in the house dying; and that it brought bad luck to sell the bees unless for gold; but his father sometimes exchanged his bees for a small pig.

To Mrs. A—, an aged matron, I said, "You have more sense, I hope, than to think there is anything in telling the bees if one of your family dies?" "Why, I should expect them all to die," she replied, "if I did not do so."

Another man had two casts, and I recommended for them liberal feeding. "Oh, he said, a small bit of lump sugar as large as his finger nail would last them two or three days," so he backed his own opinion, and gave them the "small bit." His bees went to sleep in the winter, and he looked for their waking again, but to no purpose—they were dead.—M.

P.S.—A super in my employer's apiary, 6 inches in circumference, has brood comb in it this season. I have never seen such a case before. The hive is a flat-topped straw hive.

FEROCITY OF INDIAN BEES.

THE following instance of the ferocity of the large Indian honey bee, *Apis dorsata*, is related in a recent number of "Kind Words":—

"Having failed to observe some nests of bees in the clump of shady trees under which our camp was pitched, they were disturbed by the smoke of a fire our servants had made to cook by, and at once turned out by swarms, attacking men and animals, especially our horses that were picketed in a row close to our tent. These poor beasts began to kick and plunge fearfully, so, thinking to give them a chance of escape, I ran towards them and cut their head and heel-ropes with my large hunting knife, getting well stung while so doing. But the horses, being now free, instead of at once running away as we had hoped they would do, began to fight with each other in the most fearful manner, being all, no doubt, perfectly maddened by the stings of the bees (myriads of which were flying about), they reared, bit, and kicked each other most desperately, till at last, becoming entangled in the loose ropes by which they had been tethered, all five horses were rolling on the ground together, making a terrible noise and dust. The bees now attacked me so badly that I was obliged to leave the horses and run for it, which I did, followed by a swarm of bees, until a stump tripped me up, when they punished me fearfully, although I had a soldier's great-coat on at the time. One of our goats passed me crying piteously, with a swarm of bees about it. This poor goat died then and there from the stings, after going a few yards further. We had next to catch the horses. These poor animals were much swollen all over their bodies, for these wild bees are very large, and stung far worse than the common English bee. When one nest is disturbed the other swarms in the neighbourhood seem to also turn out to their assistance.

"On a very large tree, not far from this spot, we counted eighteen bees' nests, each about 2 feet long by about 15 inches broad. Up this tree were the marks of bears' claws distinctly visible, for bears are in the habit, at night, of climbing up after the honey, of which they are very fond. The *dheels* declared they had seen one, by moonlight, seated along a branch clawing down these nests with both paws, and greedily swallowing bees, wax, honey, and all, seeming quite proof against their stings. It was very usual to find marks of where bears had climbed trees on which were bees' nests, so this account seems likely enough to be true.

"The bees had disabled me, robbed me of my sight for a time, and laid me on my back with fever."

OUR LETTER BOX.

[N.B.—We are very sorry some of the following answers have been delayed, having been accidentally misplaced.]

COCHIN-CHINA HEN'S HEAD SWOLLEN (A. L. E.).—We have seen no such swelling of the head to twice its natural size as you describe. She has, perhaps, been stung by something. We should bathe it freely with cold water, and should bleed at the root of the comb.

* Native hunters.

CHICKENS DROOPING (M. A. H.).—Remove your chickens to fresh ground, provide them with heaps of dust or road grit, and mix a little black sulphur with it. Feed them for a short time on stimulating food, till they get over their troublous time. Growing the crown and tail feathers are the "children's diseases" of chickens.

WHITE CRÈVE COEURS (X. Y. Z.).—We have not seen any white Crève Cœur fowls, nor do we know of any. We therefore consider those you name a freak of nature. We are not surprised at it. There seems to be a tendency in all black animals to throw white produce at times—Spanish fowls for instance. As we sit writing we can see two hens with as much white as black in their plumage. The young of the Silver-Gray Rabbits are born black, yet in almost every litter there is a white one. All breeders of black poultry know how common these freaks are. Black Cochins "went out" because no one could obtain a really black cock. A close examination of any cock of a black breed will almost always result in the discovery of red, yellow, or white feathers. In the case of the Crève Cœur this circumstance is not so remarkable, as, although white feathers are not desirable, they are not disqualifications.

SWOLLEN GROPS (Old Subscriber but Young Poultry Woman).—It is difficult to give the cause of the "hanging crop." It is common to all breeds of fowls. We have Spanish, Dorking, Crève Cœur, and Brahma with it. It is not by any means desirable, but neither does it detract from their utility. It shows only at this time of year, when the plumage has become old and scanty. The treatment is to feed sparingly, and to confine the birds where they can be kept from all water, except a little, which is absolutely necessary, three times per day, when they should be allowed to drink a little, but the water should not be left within their reach.

CHICKENS WITH DROOPING WINGS AND BLIND (W. T.).—Your chickens have been suffering from that which we must call the epidemic of the season. Our chickens have had the same, but it has not been fatal. We have washed the heads, eyes, and nostrils with vinegar and water, and we have given camphor internally, and have put it in their water. We have not lost one in twenty, and many cases which we thought hopeless, and put away in what we term our hopeless ward, have entirely recovered. The chickens that are visited with this complaint, seem to grow only in the head, which becomes, or appears to be, too large for the body; the beak appears long and sharp, and the eyes large, but after a time they go on and almost recover the lost ground.

IMPARTING A TAIN (M. R. E.).—A Cochin-China cock cannot taint a Cochin-China hen from his having been with hens of another kind.

GAPES (A. J. P., *Siberia*).—Your chickens seem to have the gapes. Treat them as directed for that disease in our last week's Number.

RATTLING IN THE THROAT OF CHICKENS (Cochins).—If it arises from excess of mucus, as it probably does, a diet of soft food only, with bread soaked in ale once daily, and abundance of lettuce leaves, will remove the annoyance.

TURKEY COCK PARALYSED (W. H. R.).—The bird must be well and thoroughly purged. He must be kept clean, and when the evacuations become natural—that is, white and green, you may then resort to stimulants—bread steeped in strong ale, and camphor both in the food and water.

VALUE OF PEACOCKS (A. M. J.).—Peacocks have varied much in value of late. At present, as they will be moulting, they are worth little—perhaps about 18s. each. They will be worth more in the winter. Hens are not saleable at present. Chicks are too young to sell at a fortnight old. When a little older they are table poultry. Write to Baily, 113, Mount Street, Grosvenor Square. If your Pea Fowls are not of the common sort they are at any time saleable. Baily will buy them.

USE OF THE WHITE AND YOLK IN FORMING THE CHICKEN (J. H. Y.).

—Both are essential for the formation of the chick, and the process of the formation is thus epitomised in "The Poultry Book," first edition. "The yolk is lighter than the albumen, and hence it always floats to that part of the egg which is uppermost; and the lightest part of the yolk is that occupied with the vitelline. From this circumstance the germ is always near the warmth of the old birds. To keep the germ from coming in contact with the shell, and to prevent its being bruised, there is, on each side, a tough, spiral, and highly elastic filament, which is attached, at one extremity, to the membrane covering the yolk; it then passes through the white, and is fastened at the other to the membrane of the albumen. These are called chalazae. These cords allow a layer of albumen to lie between the germ and the shell. During incubation, the albumen disappears before the yolk. The reason of this is very interesting. About four days after incubation has commenced an admixture takes place between the two. In the hen to the thirteenth day, in aquatic birds a few days longer, a part of the albumen lies at the bottom of the shell, in a gelatinous thick state. This is opposite to the chick, and more or less attached to the yolk. About the fourth day of incubation the yolk changes colour, becomes paler, and alters in shape. If the contents of the shell be examined carefully, by being turned out, a white circular line will be found at the lower part of the yolk. The space within this circle becomes pale, thin, and undulated, and it is finally ruptured. Through this opening the white enters, and mixes with the yolk. The dense albumen spoken of before closes up the opening as a valve, by which ingress alone is allowed. This may be best seen about the fourteenth day. Afterwards the opening gets smaller and smaller, as the albumen decreases, and is finally closed. Around this opening is arranged a wreath of blood-vessels."

SENDING BLACKBIRDS AND THRUSHES TO NEW ZEALAND (John Stuart).

—Take the young birds from the nest when they are tolerably feathered, but not so old that they will open their mouths to be fed. Make a paste of ground oats with water, add a little sharp to prevent its being sticky, also a little cheese mashed up. This food can be made fresh every day, and will do to rear them on, and to feed them with during the voyage. A dozen pairs would require a cage 6 feet long by 2 feet high, and 18 inches wide; but if the birds were kept very clean and allowed to wash their feathers, they would do with less room. The perches should not cross each other, nor overhang. A little fine gravel for them to peck at occasionally would be useful, as well as a few grocers' currants for the Blackbirds. Cochin and Brahma eggs if taken a long voyage should be best packed, as it would resist the changes of temperature, as the eggs should not be allowed to get too hot nor too cold. The box should be hung up in a cabin, not put into the hold. We do not know what has been the result of any trials of hatching after so long a voyage. Perhaps some correspondent may be able to inform us.—B. P. BAXTER.

possessing only the natural tints. The varieties from which the pollen was taken were all planted out in the trial-ground at Ohiswick last summer, and received the highest awards of the Floral Committee of the Royal Horticultural Society. Their names are *Cirolet*, *Gaiety*, *President Lincoln*, and *Beauty of Oulton*. The last-named is certainly the finest bedding *Pelargonium* which I have ever raised before the present season, and I predict for it a long and brilliant future. It is in the present season in this cold, wet, and smoky climate even more beautiful than it was at Oulton Park or at Ohiswick last year. Its habit is everything that can be desired; it is remarkably free in growth, is very easily kept through the winter months, and can be propagated very rapidly. As an instance of this I may state that I only sent six small plants of it to Ohiswick last year, and that there, under the able superintendence of Mr. Barron, upwards of two hundred fine plants have been obtained from them.* It can be propagated all through the winter months if the cuttings are placed in a nice airy temperature. The ease with which varieties of this section can be propagated and kept through the winter months gives them a great advantage over the *Tricolor* section, of which Mrs. Pollock is the type. A large bed of Mrs. Pollock in the flower garden here bears no comparison in point of beauty with *Beauty of Oulton*, although both varieties are so distinct in character that they may be planted side by side with good effect. I should not venture to say so much in praise of one of my own production, but that I feel sure that what I have stated will be borne out by others when they shall have seen the effect which *Beauty of Oulton* will produce in this and future seasons.

There is also another section which will prove an important addition for the decoration of the flower garden. One of the best of these varieties—namely, *General Longstreet*, is of fine habit, and has bright golden leaves and large compact trusses of deep scarlet flowers. This is a great improvement on the well-known *Golden Fleece* and *Cloth of Gold*. By crossing *Stella* with pollen taken from *General Longstreet* I have obtained a beautiful golden *Stella*, with a habit more compact than *Stella*, and the truss rather closer to the foliage, which I consider is an advantage. The only fault I find with *Stella* is that the fine trusses of bloom are too high above the foliage, too much of the flower-stalk being seen between the flowers and the leaves. The next variety operated on was *Christine*; pollen taken from *General Longstreet* was used in this instance, by which means I have obtained a golden *Christine*. The plant is of exactly the same habit as the old *Christine*, but has beautiful yellow foliage, and rosy pink flowers, the latter forming a nice contrast with the yellow leaves.

Pollen from *General Longstreet* was also used for fertilising some blooms of the very dwarf and compact bedding *Geranium* known as *Little David*, and the result in the first season was a plant the very counterpart of that variety in habit and profusion of bloom. In the following year this was crossed with pollen taken from *Christine*, and a beautiful dwarf plant was obtained, having nice golden foliage and pink flowers the exact colour of *Christine*, and borne in great profusion well above the foliage. The plant does not grow more than from 4 to 6 inches high. Two great novelties in this section have just unfolded their beautiful petals to my admiring gaze—they are a golden *Cybister* and a golden *Spread Eagle*; in the former the flowers are of wonderful substance, and the truss promises to be very large and compact, whilst the foliage is also very beautiful, having a dark zone on a yellow ground.

I must here thank Mr. Robson for the valuable suggestions which he has made, and I shall use every endeavour to supply the wants which he points out. He is quite right; there is certainly a very wide field yet left for the hybridiser, although we appear to have brought the *Pelargonium* to the highest state of perfection. I had already contemplated the possibility of an advance in the *Ivy-leaf* section, and I cannot perceive why gold, silver, and *tricolor*-leaved varieties should not be produced in this as well as the *Zonale* class. With that object in view I shall at once procure the materials for a start, and hope to report a favourable progress next season.

Whilst writing on bedding plants I would direct Mr. Robson's attention to *Viola cornuta*. Each season with me its beauty and usefulness increase, and it is at present magnificent. No

amount of rain or sunshine appears to impair its beauty. If Mr. Robson does not already possess it he must lose no time in procuring it.—J. WILLS.

DWARF FRUIT TREES AND ORCHARD-HOUSES IN AMERICA.

DWARF or quince-rooted Pear trees have been propagated and sold to an immense extent in the United States, but until we received the instructions of Mr. Rivers's "*Miniature Fruit Garden*" the results obtained from such trees were generally very unsatisfactory. Large pyramids, grown on Quince roots, in rich soil, without summer pruning, were either barren for many years, or, if fruitful, soon became sickly. It was literally growing standard trees, in point of size, on Quince roots. We now understand that a dwarf tree should be kept in size a dwarf tree by summer pruning, and should be maintained in vigour by high culture.

The effect of the Quince root upon a Pear tree is evidently something like the process of "ringing" upon a branch. It checks the return flow of sap to the roots by the difference in the texture of the Quince and Pear wood; and hence, while it makes the tops of the trees grow luxuriantly, and produces larger and finer fruit, it in reality checks root-growth, and enfeebles the tree. I feel assured that the roots of a dwarf Pear tree on Quince roots do not grow so freely as the roots of a Quince tree on its own stock. Hence it is evident that dwarf bush culture for dwarf Pear trees is far preferable to large pyramids on Quince roots. Millions upon millions of Quince-rooted Pear trees have been planted in the United States within the last fifteen or twenty years; but very few, so far as I know, have produced any profitable results, except such as have subsequently rooted from the Pear stock. Large numbers of dwarf trees are still in existence, however, which are supposed to be still on Quince roots—trees of very large size, prolific and healthy, and upwards of thirty years old; but these are mostly in small private gardens, in rich soil, and well protected from cold winds and other adverse influences.

The chief points in dwarf Pear culture seem to be to ascertain what Pears will thrive best and produce fruit of the highest quality on Quince roots in a given soil and locality, and then to plant closely, and keep the trees down to the "miniature" bush form and size, cultivate well, thin the fruit, and seek to obtain fine specimens only. This I understand to be the Rivers method of dwarf Pear culture, a system which is very rapidly making its way in America. English editions of the "*Miniature Fruit Garden*" have been imported here for many years, and may be found in the hands of all our most intelligent cultivators; and quite recently an American edition has been published.

I have an orchard containing upwards of 20,000 dwarf Pear trees, which were formerly pruned on the old pyramidal system, but which I have now brought under the system of bush culture, by summer pinching and pruning, with the most gratifying results. My trees are planted in rows 5 feet apart, and from 2½ to 5 feet apart in the rows. We cultivate the spaces in one direction with the plough and horse-hoe, or horse-cultivator, and keep the other spaces clean with the hand-hoe. No grass is permitted to grow in the entire orchard. The plantation was commenced about eight years ago, and the larger portion of the trees is just now coming into bearing.

We have but little difficulty in ripening wood or fruit in the climate of Philadelphia, which is quite as warm in summer as the south of France. Indeed, we have intensely hot, bright, dry summers, and suffer more from excess of sunlight than from want of it. Our atmosphere is also too dry to grow certain Pears in perfection. Many Pears are attacked with black spots (fungus), and crack so as to become worthless. Transplanting and root-pruning are here hazardous operations, while mulching is exceedingly useful. We are much troubled with the quince-borer (*Saperda bivitata*), with the bark louse or scale (*Coccus*), and with the curculio or plum weevil, which last insect punctures and disfigures the Pears very much, but does not cause them to drop. The borer and the curculio, I believe, you do not have in England. The summer pear blight or fire blight (not the American blight), which prevails to a fearful extent in the more northern parts of the United States, is not so prevalent here, though cases do now and then occur. The root blight in dwarf trees, I think arises from want of proper or healthful root-growth. A great many Pear trees never make a healthy union with the Quince.

* I have heard from a reliable source that the finest lot of bedding *Geraniums* for health and beauty ever seen, have been grown at Ohiswick this spring.

Orchard-houses have been erected very extensively upon the Rivers plan in the middle and northern States of America; but the results have not been very satisfactory in a majority of instances—not because this method of cultivating fruit will not succeed here, but because it is not so much required by the exigencies of our climate, and because fruit is so abundant and cheap, and the orchard-house is too expensive for us. Only a heated or forced orchard-house is of any value so far as the sale of fruit is concerned. In a cold or unheated house, the trees are apt to be over-stimulated by the hot bright sunshine in February and March, and chilled and frosted in April. Besides, we cannot ripen Peaches and Nectarines in our orchard-houses until very late, unless we remove the pots into the open air as soon as the fruit begins to colour. We lose time and flavour by keeping the pots in the house till the fruit is fully ripened.

The orchard-house is highly useful as an appendage to a gentleman's garden to grow Plums, Nectarines, and Apricots, which can only be had with certainty and in perfection under the protection of glass, on account of the ravages of the curculio (or plum beetle), which out of doors ruins all these fruits. Even Peaches do not escape injury from this cause, and Cherries are here totally destroyed by this insect. Very free ventilation is not quite so much required in orchard-houses here as in England, as our atmosphere is usually so very dry; on the contrary, wet paths and evaporating-troughs to maintain a high degree of moisture are more needed.

The cordon plan of pruning on single stems, and on the branches of bush trees, is beginning to be practised in the United States, and is gaining favour very rapidly. It is a curious fact that the plan of making cordons by summer pinching was invented in the United States by Captain Austin, of Boston, and put into actual practice on a large scale sixteen or eighteen years ago. The trees were grown with five or six cordon branches rising from the main stem, the central shoot or leader being cut out at a distance of 3 or 4 feet from the ground. Captain Austin called his method the wine-glass pattern. He now has trees fully and precisely grown upon the cordon plan sixteen or eighteen years old; indeed, I think they have been fruiting for nearly that length of time. He certainly commenced the system long before anything had been published on the subject in France, and an account of it appeared in "Hovey's Magazine" at Boston as an original discovery several years ago.

The curate's vinery, or ground vinery, is now much talked about, and I have introduced half a dozen of them into my garden on trial this season. We are apprehensive that they will not answer without much modification in management, on account of our intensely hot sunshine in summer.

Thus it will be perceived that we are under many obligations to the author of the "Miniature Fruit Garden" and the "Orchard-House" for useful hints on fruit-culture, which are now being applied on a large scale, and soon will be universally, I think, in America. Large orchards and fruit-houses are now managed on the Rivers plans; the Rivers books are being republished in America; and hundreds of cultivators, I am sure, like myself, watch with eagerness for the genial and instructive articles from the Rivers pen in *THE JOURNAL OF HORTICULTURE*, which is taken by many of the leading cultivators in America, and by all the principal horticultural societies in the United States.—J. S. HOVENHON, *Philadelphia, U.S., America.*

LORD CLYDE STRAWBERRY.

In M. Van Houtte's catalogue, No. 108, page 97, the above Strawberry, as raised by Mr. Dean, of Shipley, was recommended upon the authority of Mr. Radclyffe as being "the most valuable Strawberry ever known," uniting three eminent qualities—"exquisite flavour, large-sized fruit, and exceedingly prolific." I am sorry to find that this kind is nothing else than the old Chinese Strawberry, in France commonly called Ananas, or Ananas de la Halle, a sort long ago rejected as not worthy of cultivation, producing a prodigious number of leaves, and runners in any quantity, but scarcely any fruit. I procured plants from parties who had them from M. Van Houtte, as well as from Mr. Dean, and they both turned out alike. I think the horticultural world has never witnessed a greater mystification.—FERDINAND GLOEDS, *Les Sablons, Seine et Marne.*

[What Mr. Radclyffe said of the Strawberry is contained in this paragraph of our Journal, published July 5th, 1865:—

"As regards Lord Clyde, I had only two plants of it, and being under a hot south wall, the blooms happened to come out early, and were destroyed by a very severe frost. I was amused at M. Van Houtte's very flattering notice of me in his catalogue. He says of me, 'He is the most experienced and best judge of Strawberries in England.' 'He is the most caustic and picturesque writer, sparing no one; neither in prose nor in verse.' 'Till this great judge says, 'To be or not to be,' raisers are in a state of the greatest anxiety.' I can only say that 'from the sublime to the ridiculous there is but a step.' What I said of Lord Clyde and John Powell was this:—'They were the best novelties here, and were rich and good.' " We happen to know that Mr. Radclyffe did not find Lord Clyde answer, but that he still cultivates John Powell."]

VARIEGATED GERANIUMS.

MR. J. WILLS, of Huntroyde, sent a paper on the raising of variegated Geraniums to the Botanical Congress. In that paper he maintains chance impregnation as being the cause of sports in seedling Geraniums, but this theory is so opposed to my own experience that I wish to call attention to the subject. Any fact in connection with the hybridisation of plants is so interesting, that I hope those who observe such will report them.

If I understand Mr. Wills's paper, he intends to say, that if two variegated Geraniums—say Mrs. Pollock and Sunset, to name two well-known varieties—be crossed and all other pollen excluded, the result will be seedlings variegated and halfway between the two parents, but that if other pollen have access to the flowers the result will be some green, and some partly green and partly variegated; also, that if extraordinary precautions be not taken the latter result is inevitable, the air being charged with pollen; and lastly, that however performed and whatever precautions may have been taken, the result is not satisfactory if much electricity happens to be in the atmosphere at the time. What a convenient thing electricity is! Too much or too little will account for anything. Do your crops fail? are they unexpectedly good? are they diseased? do your seedlings sport? do your single flowers produce double flowers? or your double flowers turn single?—the cause is too much or too little electricity in the atmosphere.

Well, I shall not attempt to disprove the theory that the strange chemical change, if it be chemical, which has turned our dark bronze Zonale Geraniums into pink, crimson, and scarlet, is dependant, or not dependant, on a deficiency of electricity, but proceed to examine the pollen question.

According to Mr. Wills the air of a house in which Geraniums are growing is so impregnated with pollen that he uses the expression—"I am sure the house was very much charged with pollen." How was he sure? Could he see it, or smell it? How did he appreciate its presence? If the air of a house in which Geraniums are growing be so loaded with diffused pollen, almost every bloom in the house ought to produce seed. Is this the case? The old Rose Christine, Bendaier, and many others will seed anywhere, but as they seed freely when grown alone it is manifest they are self-impregnated.

I have in one of my houses two shelves at the south end, each holding about twenty plants of the best variegated Geraniums. One lot has been carefully fertilised every morning, and every plant is full of seed; the others have been left untouched, and though the kinds are the same as those seeding freely, there is not one pod of seed formed on the twenty plants. Diffused pollen has not been very active in my case. Having had one house 100 feet long and 24 feet wide full of seedling Geraniums this year, besides some hundreds more which it would not hold, I have had some experience, you will say, in this matter, but I have failed to reduce to a certainty the breeding of fancy varieties, though very well satisfied with the result.

It appears to me that after crossing to the best of your judgment your chances are in proportion to the number proved, whether new fruit or flowers be your object. Of course, the raiser of a dozen seedlings may obtain a better variety than he who grows thousands; but victory generally follows the strong battalions.

When Mrs. Pollock was first sent out I crossed it with Woodwardiana, the produce were all green Zonales; one of them with bright orange scarlet flowers I called after a neighbour, William Underwood, and sold at 18s. per dozen. Though this was raised three years ago, and one of about a dozen seed-

lings it is superior to every kind now flowering here, and I have such a number of varieties that they are quite bewildering. In breeding for tricoloured foliage, I find that some seedlings come up quite white and die, some are variegated from the first, and some which are quite green for six months become variegated afterwards, whilst a large proportion are permanently green.—J. R. PEARSON, *Chilwell*.

WELLINGTONIA GIGANTEA PLANTING.

THE Wellingtonia is a tree that will mark an era in the history of our planting and woodlands. Mr. Robson, with his usual practical attention and discernment, has drawn attention (see page 467), to the planting of this tree, and other matters which deserve the attention of the planter. Mr. Robson has left little for me to say, further than to confirm what he has so well stated regarding the risk of transplanting large Wellingtonias.

Seeing that a few years will bring the smallest healthy plant of this mammoth tree to a size to gratify the eye, and give new effect to the landscape, it is little to be regretted that large plants do not remove successfully. About four years ago I assisted a gentleman in laying out a piece of pleasure ground, in which Wellingtonias were to be a feature. Contrary to my advice large plants were purchased; at least one-third of the plants died, and last autumn the best of the survivors had not made more than 2 feet of new growth.

In June, 1868, four seedling Wellingtonias were planted at Woodstock Park (Ireland); their height at the time of planting ranged from 10 to 16 inches, and they had an abundance of roots, having been transferred from the seed-pot to turf sods on an open border, and twice transplanted. On the 6th of July, 1866, the respective heights of the four trees were as follows:—No. 1, 10 feet 2 inches; No. 2, 9 feet 8 inches; No. 3, 10 feet 11 inches; No. 4, 8 feet 3 inches. The average spread of the branches was 7 feet, and the circumference of the stem of the best tree at 6 inches from the ground, was 1 foot 7 inches.

The trees referred to are growing on a stiff clay slate, which was dug out of a cut from 6 to 10 feet below the surface level, and carted to where the trees grow, in order to widen the ground to correspond with an avenue line. This I state with the object of showing that the Wellingtonia will thrive on the worst of tree soil if allowed depth.

The Wellingtonia, like its rival in style of growth, the *Cryptomeria japonica*, will only be a scrub on dry ground. The tissues of the Wellingtonia, as may readily be inferred from its nature, are immensely large, and it rapidly forms gigantic roots. Some of the best roots of the best tree here, which was killed by fungus two years ago, were upwards of 6 inches in diameter. Such tissues and roots are important considerations in transplanting young trees, much more those of large size.

I have frequently observed that, when the Wellingtonia was in the height of its growth, a few cold days would cause the young shoots to shrink, and in a short time afterwards they appeared as if blighted.—CHAS. McDONALD.

SYNONYMES OF FRUITS.

YOUR correspondent "FRUIT GROWER" should buy that excellent work "Hogg's Fruit Manual." The author could not well recommend it. Its usefulness, however, should be made known. The descriptions of various fruits are truthful, so far as I know anything about them. One great use of the book is the statement of the various synonymes under which the same fruit tree has been sold.

Grosse Mignonne Peach: the synonymes of this are Avant, Early Purple Avant, Early Vineyard, Forster's Early, French Mignonne, Grimwood's Royal George, Johnson's Early Purple Avant, Neil's Early Purple, Padley's Early Purple, Ronald's Galande, Royal Kensington, Royal Sovereign, Smooth-leaved Royal George, Superb Royal, Grosse Mignonne Veloutée, Grosse Mignonne Ordinaire, Hâtive de Ferrières, Mignonne Veloutée.

Royal George Peach: this has seven synonymes. Bellegarde, which is the same as the French Galande (the *Violette Hâtive* being the same as the English Galande), has five synonymes. I beg to make a remark here. We began with "Grosse," and this excellent and most laborious book will show you the "grosse" frauds to which you will be subject without such a guide.

Nectarines: the Early Newington has five synonymes, Elrage has five synonymes, *Violette Hâtive* has nine synonymes. The last two are two of the best Nectarines. There are many other Peaches and Nectarines which have synonymes. It is not necessary to go through an elaborate work of 414 pages, written on kinds of fruit by such an acknowledged authority, but I can conscientiously recommend it, and advise all who wish good fruit-information, and who do not wish to be imposed upon, at once to procure it.—W. F. RADERFERN, *Oxford Fitzpaine*.

ROSE CULTURE.

ALTHOUGH strictly an amateur, and having my time much occupied, I venture to express my surprise that Mr. Abbey should speak of "the Dog Rose or Briar" in a way that will lead a novice to think all Briars are alike, and that one experiment with one sort, or with any one variety of Rose worked upon it in a given soil, is conclusive.

Of course there are good and bad—that is, weak and strong, or clean and scrubby Briars, but there are more than this: these are varieties of Briars, some much more thorny than others, and I think some discrimination can be used in selecting suitable stocks for Roses of peculiar habit or character. An amateur can choose his stocks for grafting or budding one by one, and if the nurseryman cannot do this he could sort them into distinct parcels and plant them in distinct "pieces," and then use them with discrimination. The colour of the bark will show a red stock from a white stock; and, again, the thorns more or less thickly crowding the stem will enable the grafter to judge which to take for very thorny Roses, such as *Madame Damage*.

I grow all varieties, except Tea-scented China, with success on the Dog Rose in light soil not very favourable to Roses—at least I have good plants ranging in age from ten to fourteen years. Suckers will destroy them speedily if not removed; and for this reason, and for another potent reason in light soil, keeping them at home, with the ground necessarily much enriched—the plants must be lifted, and wisely root-pruned as well as head-pruned annually or biennially with a bold hand; and if any amateur on light soil lose heart at enjoying only partial success by adopting this treatment, I confidently say, Persevere. This custom of lifting will generally retard the date of blooming, as pruning the heads cannot be done until the head shows healthy signs of life. To this there may be one exception, and that is *Noisettes*; they may be "fixtured" if root-pruned and refreshed with turfy loam and well-rotted dung every year. If the plan above recommended is faithfully followed on open soil in open situations, there can be no possible question of success, but in proportion to the neglect of it so will be the proportion of failure.

As to the *Manetti* stock it is my firm belief that its value is for the nurseryman, and not for the amateur; not only amateurs themselves, but their gardeners—seventy-five per cent of them—will allow the *Manetti* thief to rob the Rose, the suckers so artfully intertwine themselves with the foliage and shoots of the graft.

On their own roots many valuable sorts both Hybrid Perpetuals, Bourbons, and Teas, will thrive, and will not thrive in any other way; and these are what are called "weak," "dwarf," and "robust." For Hybrid Perpetuals I will instance *Cardinal Patrizzi*; for Bourbon (an old and good Rose), *Julie de Fontenelle*; and for Tea, *Louise de Savoie*—but, with me, while these will do well, General Washington (H.P.) is inferior on its own roots, and my belief is that many sorts of strong-growing Hybrid Perpetuals and Bourbons, when established on their own roots, rapidly degenerate in quality and character—that is to say, in size and perfection of form. It is the former treatment on the Briar which affords the best opportunity of preserving the merits of every esteemed Rose. Without the curb, combined with good living, the best of us are sure to run to waste.—CHARLES RILEY.

FIFTY CUT ROSES.

I DARE say the framers of the Jersey schedule meant trusses with buds and numbers of expanded Roses; still, they did not so word it. Perhaps the following would put an end to misapprehension in future:—"Fifty trusses, with buds or any number of expanded Roses. A single bloom to count for a

trous." I am not aware of being hard on the Jersey rosarians; but if what I said has given that impression, I beg to apologise.—W. F. RADCLIFFE.

ROYAL HORTICULTURAL SOCIETY.

JULY 17TH.

FLORAL COMMITTEE.—Mr. Ball exhibited a very fine collection of plants, including Ferns, Palms, &c. A first-class certificate was awarded to him for *Latania rubra*, a fine Palm, and one of the second class for *Echeveria atropurpurea*. This plant will be found useful to contrast with other species of *Echeveria* used for margins to flower-beds. Among the collection was a variegated *Athyrium*—*Goringhamum pictum*, but the plant was too young to show its true character or beauty as a variegated Fern. This Fern was exhibited in great beauty by Mr. Standish, Royal Nurseries, Ascot, at the International Horticultural Exhibition. The plants exhibited this day were evidently seedlings. From Mr. Ball came also small plants of *Pandanus Porteanus*, which it was requested should be sent again, *Chenopodium mobilis*, *Philodendron bipinnatifidum*, *Cycas plumosa*, a very singular plant, and *Amorophaphalus grandis*; but some doubts were raised as to the identity of this species with *A. nivosus*, a doubt which is to be settled at the next meeting. A special certificate was awarded to Mr. Ball for this interesting collection.

Messrs. Veitch exhibited some fine specimens of many beautiful plants, and among them *Rhododendrons* *Princess Royal* and *Princess Alice*, the white *Lapageria*, and a new *Anthurium* called *regale*; but the plants being too young for any decision to be arrived at as to their merits, it was requested that they should be sent again. Messrs. Veitch also exhibited *Cattleya quadricolor*, a pale variety of *C. Mossii*; *Napenthes ampullacea vittata major*, a very curious form of this interesting family; *Oncidium barbatum*; *Pandanus Liannei*, *Dioscorea grandiflora*, and several other interesting plants. First-class certificates were awarded to the same firm for a handsome-foiled plant, *Aphelandra* species; *Polystichum* sp., a very handsome greenhouse plant, and nearly hardy; *Lomaria Lechleri* from Chili; *Nierembergia rivularis*, a beautiful white-flowering plant, much larger than the usual form of *Nierembergia*, half-hardy, and which, treated as a bedding-out plant, will be found very useful. Second-class certificates were awarded for *Marrubium* sp., and *Pteridophyllum seylanicum*, an elegant ornamental-foiled plant.

Mr. Wm. Paul sent four seedling *Zonale Nosegay Pelargoniums*—viz., *Dr. Hogg*, *Scarlet Dwarf*, *Waltham Scarlet*, and *Lilacina*, but not apparently in a condition for being satisfactorily adjudicated upon. There have so many good *Nosegays*, and so much alike, that it requires something quite new in colour to surpass them, or in many cases to equal them. The large bold truss of *Stella* and *La Grande*, or the King of the *Nosegays*, must be the models of perfection in this class of flowers. Plants producing thin and lax trusses, however bright in colour, are not desirable for useful for bedding purposes, for which alone *Nosegays* can be used. Mr. F. Gill, Blandford, sent seven seedling *Verbenas*, not one of them sufficiently distinct from those in cultivation; and Mr. Booth, a cut specimen of *Philadelphus Stewarti*, a late-flowering Syringa. Mr. Ghesbert, gardener to James Bateman, Esq., had a first-class certificate for a cut spike of *Grammatophyllum Bithui*, of which mention will be found further on. Mr. John Mann, Brentwood, sent a collection of thirty-two seedling *Zonale Nosegay*, and other *Pelargoniums*. Two were selected by the Committee as promising varieties to be seen again. They were *Guardman*, a bright orange scarlet *Nosegay*, and *Dwarf Queen of Whites*, a very pure white. Mr. Trotman also exhibited a seedling *Nosegay Pelargonium* called *Fire King*; and Mr. George Macintosh, Hammer-smith, seedling *Nosegay Pelargonium* *Lady Palmerston*; likewise dwarf compact plants of *Pyrethrum parthenium*, the result of severe cultivation.

Messrs. Osborn, Fulham, were awarded a special certificate for six small but beautiful specimens of *Heaths*; and Messrs. Lee, Hammer-smith, contributed *Amaranthus elegantissimus*, very similar to *Amaranthus bicolor*. Mr. Green, gardener to W. Wilson Saunders, Esq., received a special certificate for an interesting group of plants, and some out specimens of *Orchids* were sent from E. Wright, Esq., of Birmingham. C. J. Perry, Esq., of the same place, exhibited five seedling *Verbenas*, of which Henry Law received a second-class certificate: it is of a deep cherry colour with a dark centre. A special certificate was also awarded Mr. Perry for his beautiful collection of cut *Verbenas*. Messrs. E. G. Henderson, Wellington Road, received a first-class certificate for a novel *Pelargonium* called *Grande odoratum*. This award was made from the probability that the plant will prove the parent of a new section of *Pelargoniums*, having high-coloured and well-formed flowers, with scented foliage; the leaves in form resemble those of the Oak-leaved and Fair Helen section, and have their peculiar and agreeable scent. The plants produced large trusses of tolerably well-shaped flowers, capable of much improvement. This property has long been desired, and was particularly alluded to by W. Wilson Saunders in his interesting lecture given last year on the *Pelargonium* and *Cape Geraniums*. Messrs. Henderson also exhibited *Lady Callum*, one of the tricoloured section of *Zonales*, perhaps the best yet sent out by that firm, and which received a first-class certificate in 1884; a specimen of the double

Pelargonium *Gloire de Nancy*, alluded to in a recent report; and *Deutzainae spinosa*, a beautiful greenhouse shrub. A collection of variegated *Zonale Pelargoniums* was sent from the Chiswick gardens, and a nice little collection of *Palms* from South Kensington, as well as a collection of *Orchids*, among which were *Grobya Amherstii*, rather rare, and a *Stanhopea*. Messrs. Veitch exhibited out specimens of that beautiful and showy hardy climber *Mutisia decurrens*, and its bright starry orange flowers were much admired. This plant is very ornamental for covering a wall, making shoots rapidly, and displaying an abundance of its superb flowers.

FRUIT COMMITTEE.—Mr. Tillery, gardener to the Duke of Portland, Welbeck, sent a small collection of fruit consisting of large and finely-ripened *Bellegarde Peaches*, *Elrage Neectarines*, *Bigarreau Napoleon Cherries*, and *Sir Charles Napier* and *Empress Eugénie Strawberries*. From Messrs. Backhouse, York, came a seedling *Strawberry* with small, acid, dark-crimson berries; and from the Society's garden at Chiswick eighteen sorts of *Lancashire Gooseberries*. Mr. Gill, Dorset Nursery, Blandford, exhibited a variegated *Cabbage*, which no one, we should imagine, would prefer to a green-leaved one either for appearance on the ground or at table; and Messrs. Stuart & Mein, of Kelso, pods of *Raphanus caudatus*, or *Long-podded Radish*.

FOURTHLY MEETING.—W. W. Saunders, Esq., F.R.S., in the chair. The Chairman said that before proceeding with the regular business of the meeting, the pleasing duty devolved upon him of presenting Mr. Bull, of Chelsea, with a gold medal of the value of £25, called the *Prince Consort's* medal, which was instituted as a reward to the person gaining the greatest number of marks at the Saturday Shows. Although several competitors had obtained a large number of marks, Mr. Bull was the winner by a very considerable majority; the Society was also indebted to him for his numerous contributions of new plants at the Tuesday Meetings.

Mr. Bull said "My duty to-day is one of the most agreeable and pleasing character. It is to return thanks for the presentation of this extremely handsome medal, a medal that I shall prize more than any award I have ever received, and for the reason that it has been presented to me somewhat publicly by the Council of the Royal Horticultural Society; a Society that has done more to benefit horticulture, done more to increase a taste and love for it, and extend a knowledge of it, than any other agency extant. It is now many years ago that the Society instituted flower shows at Chiswick, and it is not too much to say that these shows first gave thousands the knowledge, not only of different classes of plants, but of the perfection and beauty to which they could be brought. That naturally increased and extended the taste and love for flowers and plants, but the Society did not stop there—it sent its collectors abroad to ransack forest and jungle, mountain and vale, to search for novelties and find floral treasures wherewith to gratify the taste it had created. In addition to that, the Society distributed a Journal among the Fellows, which gave practical information on most subjects relating to horticulture. These things are of the past, but what of the present? Why! the Society is still leading and creating a taste for horticulture. Chiswick shows were good, so they have been copied, until we have large flower shows too frequently, for they are nearly all thrust into two months of the year, until their number, frequency, and similarity have become almost satiating. The Horticultural Society seeing this, has re-organised its Tuesday Shows and Scientific Meetings. These meetings, as most of you know, are not new; the Society formerly held them under the guidance of that eminent botanist, Dr. Lindley, whose portrait hangs above me; in the interest of horticulture the Council have thought it best to revive them, and now they are attaining an importance, and are watched with an interest, that must be beneficial both to horticulture and the Society. These Tuesday Shows extend throughout the year, and by and through them, fruit and flowers for every season will be brought before the Fellows and the public, and hence the culture of fruit and flowers will be encouraged and horticulture benefited accordingly. Looking at all these things, I cannot as a horticulturist be otherwise than pleased at receiving this handsome medal from the Society. But there is another reason why I shall be proud of this medal, and that is, that the Society has associated with it the name of one of whom all England is proud, one who was always associated with art and science, who was himself not only fond of horticulture, but was also President of this Society, as indeed he was connected with everything that tended to the progress or benefit of mankind; and horticulture has a powerful tendency to that benefit, for it affords an innocent, instructive, and enjoyable occupation to those who have leisure time, a health-giving relaxation to those whose energies are taxed to the utmost in this age of severe competition; and it exercises an elevating, humanising influence for good on the artisan and mechanic. Associated, then, with the name of that great and good man, the Prince Consort, this medal to me will be a charming *souvenir* of his memory."

The Rev. Joshua Dix having read the awards of the Floral Committee, remarked that the bedding plants at Chiswick are now in great beauty, especially the *Scarlet Pelargoniums*, in addition to which there is a fine collection of ornamental-foiled plants.

Dr. Hogg said that the Fruit Committee had made no awards, in fact the only subject of any novelty was a *Strawberry* from Messrs. Backhouse, a hybrid between the *Elton* and *Fragaria lucida*, and that was of more interest in horticulture than to connoisseurs, because it might serve as the basis of future hybridisation. There was a small

collection of fruit from Mr. Tillery, comprising fine Peaches and Nectarines, and Bigarrea Napoleon Cherry, a variety which, from its very large size, its handsome appearance, and its excellent flavour, is one of the most desirable and useful of Cherries. He would supplement the observations made by Mr. Dix respecting the garden at Chiswick by stating, that in addition to the bedding and fine-foliaged plants there is there an extensive collection of Strawberries and Gooseberries, fruit of which might be tasted by Fellows on application to Mr. Barron, and among other subjects which might be named the Vines in the large conservatory and pits are just now of great interest.

The Rev. M. J. Berkeley said, that before proceeding to review the subjects exhibited on the present occasion, he had to state that the *Nierembergia* sent by Messrs. Veitch to the last meeting had on examination proved to be entirely new, and accordingly it had been named *N. Veitchii*. On the same occasion he had regretted that *N. rivularis* was not before the meeting, for although it had been figured in Messrs. Illustrations of South American Plants, it was new to gardens. He might, however, mention, that it possesses this peculiarity, that at every node there are one or two glandular spots which throw out roots, so that the plant may in this way be increased indefinitely. *Acalypha tricolor*, shown at the last meeting, and supposed by Messrs. Veitch to be a native of the New Hebrides, appeared to be a variety of the Indian *Caturus hispida* of Linnaeus. The next plant referred to was *Cassia floribunda*, and Mr. Berkeley regretted its not being before the meeting, for it did not appear to be sufficiently known in this country; but at Paris, where it goes by a variety of names, it is a favourite bedding plant. It is a native of Mexico, whence it was introduced into this country in 1818, and requires to be kept in a stove in winter. Mr. Berkeley then remarked that there were two plants exhibited under what were evidently wrong names; one was called a *Dioscorea*, though it was utterly impossible that it could belong to that genus, and the other a *Pteridophyllum*, though it was certainly not a *Fumariaceae* plant. The pretty orange fruit of *Momordica charantia* then came under notice, as well as the use made of *M. balsamina* in curing wounds. For this purpose the fruit is cut open before it is ripe, put into oil, and exposed to the sun until the oil becomes red, when the latter may be applied to the wound which it is desired to heal. Of *Athyrium Goringianum pictum*, from Mr. Bull, it was remarked that though small in its present state the fronds would attain a much greater length, and that the variegation would then be more marked. An *Echmea*, from Belize, exhibited by Mr. Wilson Saunders, was then compared with *Echmea Mertensii*, figured some years ago in the "Botanical Magazine," and to which it was stated to bear considerable resemblance, but to differ in the flowers, being yellow instead of red, and not so closely set in the spikes. Mr. Berkeley, in concluding his remarks, observed that the *Pelargoniums* at Chiswick were grown in small beds side by side so as to afford great facilities for comparison, and though the relative merits of the varieties had been marked by the Floral Committee, people could judge for themselves.

The Chairman here observed with respect to *Pelargoniums*, that he wished to call attention to those with sweet-scented leaves. He had cultivated *Pelargoniums* for many years, and had always been grieved to see that every effort had been directed towards obtaining fine flowers, but in securing this object the scent of the leaves had been in a great measure lost. He yet hoped, however, to see fine flowers combined with sweet-scented foliage and good habit.

Mr. Bateman apologised for the absence of Mr. W. Wentworth Buller who was to have made some remarks on Orchid culture and double-glazing, but unfortunately he had been called to the country. Before saying anything about the Orchids, he (Mr. Bateman) wished to direct attention to a plant of climbing habit with most brilliant-coloured flowers, *Mutisia decurrens*, introduced some years ago by Messrs. Veitch, from the Chilean Andes, through their collector, Mr. Pearce, and figured in the "Botanical Magazine" in 1861. It was there stated to have stood the severe winter of 1860-61 unharmed in the open air at Exeter, but he was happy to be able to inform the meeting that when he left his garden in Cheshire, than which a worse climate could hardly be found, it was in flower on a wall where it had never received any protection whatever. The brilliant orange flowers glittered like gas-jets, and he considered it the most beautiful hardy plant introduced for several years. Passing on now to the Orchids, Mr. Anderson, of Meadow Bank, Glasgow, had sent one or two Orchids, and amongst them *Cattleya citrina*, remarkable for two things, the length of its vernacular name, the other its habit of growing in a downward instead of an upward direction. Another flower sent by Mr. Anderson was *Anguloa eburnea*, a plant with singularly formed white flowers, which, he might mention, had attracted the attention of the Princess Alexandra last year more than any other Orchid. The next plant which he would notice was *Grobya Amherstii*, which was figured in the "Botanical Magazine" in 1855, and had now, after an interval of thirty years, produced its sombre-coloured flowers. He now came to a plant with a very long name, *Grammatophyllum Ellisii*. Its generic appellation was given in consequence of the leaves appearing to bear certain characters or letters, and old Rumphius even went so far as to name certain of these. Some of them were said to resemble Hebrew characters, others Samaritan, and others again to be more nearly approaching the Roman letters. The specific name was that of its discoverer, the Rev. William Ellis, whose work on Madagascar and his missionary labours in that island

were well known. The plant was figured in the "Botanical Magazine" in 1859, but there was every reason to believe that it had subsequently been lost till a year or two ago, when fresh specimens came into the hands of Messrs. Veitch. One of these Mr. Bateman said he had secured; it grew vigorously, and about three weeks ago showed flower, but he was sorry he could not bring the plant to London with him, and he had, therefore, to content himself with cutting off the spike and placing it on a young specimen which Messrs. Veitch had kindly lent him for the purpose. After remarking that though Madagascar is so near to Africa its flora, at least as far as Orchids are concerned, is very distinct from that of the mainland, Mr. Bateman drew attention to that splendid terrestrial Orchid, *Disea grandiflora*, which Mr. Leach, of Clapham, was the first to flower, and has continued to be most successful in cultivating. Having thus touched at the Cape, Mr. Bateman said he next came to central Africa, a part of the world which had always been fruitful in monsters, and, holding up an *Angraecum*, he observed that though M. Du Chaillu had no found that, he was fortunate enough to import another, which had been figured and described in the "Botanical Magazine" of this month under the name of *Angraecum Chailluanum*. Mr. Bateman then introduced M. Du Chaillu to the meeting, and invited him to offer some remarks on African Orchids.

M. Du Chaillu said that he felt some diffidence in speaking of Orchids, not having made botany his study, although he had been a collector of objects of natural history of every description, and among them large numbers of plants. Unfortunately, however, on his return from his last expedition he had lost on the voyage most of those which he had collected. Orchids, he said, are chiefly found in equatorial Africa near the coast, and become more scarce in the interior. There they chiefly exist on hardwooded trees growing on the banks of streams, and in the dry season, which lasts for three months, they are shrivelled up; but when the rains, which last for nine months, set in, they grow luxuriantly and flower profusely, scenting the air with a delightful fragrance. The species are few in number, but when they do occur they grow in large masses and have a striking effect. Many of the Ferns in the same region are also very beautiful.

The Rev. Mr. Ellis having been called upon to make some observations on the flora of Madagascar, said that whilst in that island it was his custom to send out natives to collect plants in those parts of the interior which he could not visit himself. He then described the zones into which the vegetation of Madagascar is distributed, and the locality in which he found the *Grammatophyllum* named after him. It was growing in the fork of a large tree by the bank of a river, and had an amazing quantity of short, white, fleshy roots; and he had always found that it succeeded best when afforded plenty of water and air. With regard to other Orchids, he did not think that collectors would find any superior to *Angraecum sesquipedale*, which occurred in the lowest and hottest districts, selecting for its habitation trees on the borders of the forest, and growing on the driest parts of the branches and trunks, and where it would not be much shaded by foliage, thus indicating that it requires plenty of air and light. Mr. Ellis then adverted to a charming *Anacochil*, with lilac flowers and green and silvery-marked foliage, and stated that many very beautiful Ferns also exist in Madagascar, some of which would no doubt prove valuable acquisitions.

On the motion of the Chairman a vote of thanks was unanimously accorded to M. Du Chaillu and Mr. Ellis.

The meeting was so numerously attended that it was only with difficulty that the Council-room served to contain the audience. Several new members were elected, and one Society, the Keovil District Floral and Horticultural Society, was admitted into union.

WEEKLY SHOW, July 21st. — In the class for six Hollyhocks in spikes, Mr. W. Chater, of Saffron Walden, showed some excellent specimens, which received the first prize, and the same gentleman took first prize in the class for twenty-four cut blooms. In the class for the best collection of vegetables there was a keen competition, which resulted in Mr. Hill, Angel Row, Highgate, being first. Mr. B. Porter, gardener to Hon. A. F. Ashley, Copt Hall, Essex, second; and Mr. Young, gardener to R. Barclay, Esq., Highgate, third. For the best six *Liliums*, Mr. Cutbush received a second prize, there being no competition. In the miscellaneous class Messrs. Cutbush received a second-class certificate for a cut bloom of Phlox, and extra prizes for six miscellaneous plants and six Heaths.

BLOOMSBURY FLOWER SHOW,

THE annual Exhibition of window plants belonging to the working classes of the parish of St. George, Bloomsbury, was held on Tuesday last, the 17th inst., in the gardens behind the Foundling Hospital, and was very well attended.

The competitors were as usual divided into several classes, children, servants, and adults severally competing among themselves. There was no marked improvement over former years; nor should we expect to find it, as the exhibitors have not much chance of adding to their stock of either gardening knowledge or appliances. With two exceptions the classes were well filled, and the competition was as a rule very close. We were glad to see that in spite of the very small number of plants exhibited in the class for ragged schools no diminution was

made in the prize list. Those who are in any doubt as to the plants which will best stand London air may learn much at these exhibitions. To judge from what came under our notice on Tuesday last, we should say that no plant flourishes more than the French Marigold, of which we saw several boxes filled with most healthy plants. It is worthy of mention, that in the class for servants Susan Hyde has carried off the first prize for Fuchsias in four consecutive years with the same plant. Leaving out of consideration the class for plants which had not been kept in the possession of the exhibitors, there scarcely seemed to be as many plants on the tables as in previous years; but there was certainly a less number of those unhappy specimens which only serve to set off their more flourishing neighbours.

The prizes were distributed by Lord Shaftesbury in the evening. We think this ceremony would be less tedious if his Lordship presented the first prizes only. As at present arranged, the patience of those who are anxious to hear the speeches is most sorely tried. The weather was most favourable, and all who were present seemed thoroughly to enjoy the gardens and music.

BEDDING PLANTS AT THE ROYAL NURSERIES, SLOUGH.

EVERY one who has been in the habit of attending the London shows knows the magnificent Azaleas which Mr. Turner exhibits—masses of bloom which are wonderful even to us, and which strike foreigners with amazement; but the Azalea season is over, the plants have been divested of their gay attire, and they are now going to rest preparatory to a fresh campaign; the visitor, therefore, must not, and, if a practical man, will not, expect to feast his eyes on their beauties. Auriculas, too, another flower with which Mr. Turner holds a leading position, are likewise over; Dahlias not commenced, and those gorgeous specimens of show Pelargoniums and charming Fancies are also at rest, or just beginning to start. What, then, is there to be seen at the Royal Nurseries? is a question which will naturally be asked; but it admits of a very simple answer—The bedding plants; and it is with respect to these and not the general features of the nursery (although there is much in it to interest), that we propose giving a few notes.

At the present time certainly no plant is more popular or more extensively planted for flower garden decoration than the Pelargonium, and within the last few years the improvements which have been effected in the size and colours of its flowers have been so great as to throw most of the old varieties far into the shade. Not a year passes in which dozens at least of new kinds are not brought before the public, all with the character of being more or less an advance on existing sorts; and indeed many of them are so to a slight extent, though not equal to others which appear contemporaneously, whilst others again are really striking improvements. Owing to this continual succession of novelties the difficulty of selection is very great; and it is rendered all the more so, because, to judge of the value of a plant for bedding-purposes, it is not sufficient to see a single plant in a pot, but its effect in a mass must be looked to. The opportunities of doing this are rare, hence varieties totally unsuitable in habit, or only fit for pot-culture, are often planted, and disappointment is the result. Mr. Turner, however, both for his own information and that of his customers, has this year planted a very extensive collection of the newest and best bedding Pelargoniums, and that, too, in the case of the great majority of the varieties in such numbers that their value for flower garden decoration can be judged with a considerable degree of certainty. The collection, then, in a utilitarian point of view, is well worthy of inspection, and it is equally so on account of its ornamental effect.

Among Nosegay Pelargoniums, Dowager Duchess of Sutherland, raised by Mr. Fleming, of Oliveden, and which has on more than one occasion been noticed in these pages in terms of high commendation, was remarkable for its magnificent trusses of magenta rose-coloured flowers, having a scarlet shade on the upper petals. The habit is vigorous, the leaves faintly zonate, the trusses much larger than those of either Stella or Cybister, and when bedded-out the plant is very showy and effective. Even in pots, though Nosegays are not generally considered eligible for that mode of culture, owing to the large size of its trusses and their profusion, this variety has a fine effect. Last year it received a first-class certificate from the Floral Committee of the Royal Horticultural Society, and at a meeting held in June last a superb specimen of it, exhibited by Mr. Turner, excited much admiration. Altogether it is of first-class merit. Of other varieties of the same class, Cybister was producing immense trusses; and of its prototype Stella,

which is numerously planted, it would be superfluous to speak, its value for bedding being now so generally recognised. Black Dwarf is very good, so is International, which is more of a crimson shade, and Surpasse Stella, a fine orange salmon, has trusses quite as large as Stella. Amy Hogg is producing trusses of remarkable size, and the colour is most beautiful, and Orange Nosegay is also remarkably fine. Other kinds, particularly good were Black Dwarf; Waltham Seedling, intermediate between the latter and Cybister; Countess of Sefton, a plain-leaved kind with beautiful soft rose-coloured flowers, very bright and effective, especially when viewed at a distance; and Multiflora, bright scarlet, very dwarf and free-blooming.

Of Zonale varieties not being Nosegays the most remarkable were Mrs. William Paul, rosy pink, white eye, very dwarf and free-flowering; Rose Rendaller, producing fine large globular trusses; Madame Barre, deep pink, with plain foliage, and the habit of Tom Thumb, apparently a desirable free-flowering kind for small beds. Souvenir de Brasseville is a very attractive soft salmon rose, either for pots or beds; and Wilton Seedling is a large, soft, rose-coloured flower, and the plant is free-flowering and more dwarf than Beauty of Surènes; the leaves are of a light green and faintly zonate. Among salmon varieties the most noticeable were Emile Licaun, deep salmon; La Prophète, very dwarf and upright, deep salmon, bordered with white; Madame Rougière, pale salmon, shading off to white, very free; Mathilde Moret, distinct salmon centre edged with white; St. Fiacre, salmon, of a very free rather dwarf habit; Madame Badersdorff, very compact in habit, salmon, edged with white, and more deeply than in Madame Rougière.

Various shades of scarlet were best represented in Roi d'Italie, Herald of Spring, Prince Imperial, a dwarf free-flowering brilliant orange scarlet, with dark-zoned leaves; Monsieur Mangenet, clear orange scarlet, dark-zoned foliage; Lucius, immense globular trusses of rosy scarlet, darkly zonate foliage; La Peyrouse, very large trusses, and apparently a continuous bloomer, plain foliage; Mr. G. Natchet, a first-rate dwarf orange scarlet, with large globular heads and zonate foliage; Monsieur Thiers, dwarf, with darkly-zoned leaves, and the individual flowers large; Sobieski, of similar habit, but deeper in colour; La Niagra, orange scarlet, large trusses borne high above the foliage, suitable for the centres of clumps; Prime Minister, very dwarf, producing large trusses of bright scarlet flowers with a white eye, very attractive; Magnet, very small and compact, with small plain foliage, and small trusses of orange scarlet flowers, but freely produced; Clipper, a first-rate sort, with large trusses of bright scarlet flowers, individually large, and of fine form; Victoria de Puebla, very large, globular, stiff trusses of salmon scarlet flowers, freely produced; and Dr. Lindley, with very large scarlet flowers of fine form and substance, but not produced in large trusses. Especial mention must also be made of Nosegay Lady Constance Grosvenor, a most brilliant scarlet, brighter than Cybister, having dark-zoned leaves, and closely covering the ground as if pegged down. Beauty of Oulton, noticed in another page, was very fine, both in flowers and foliage, and will doubtless become a general favourite; and Duchess (Paul) was also noticeable for its large globular heads and free-flowering.

Of white kinds the best were Bull's Purity, pure white, vigorous, and a free bloomer; Madame Werle, with a delicate pink centre shading off to white; Snowball, very dwarf; and Marie Virgo, a very free bloomer, with the trusses thrown well above the foliage, which is deeply zoned.

Verbenas are also grown in considerable numbers, and among these we noticed King of Lilacs, with fine trusses of pale lilac flowers; Champion, the colour of Géant des Batailles, but with a white eye; and La Grande Boule de Neige, a very fine white, forming an excellent companion as regards height to Purple King. A dwarf Tropæolum called Slough Pet, a light orange scarlet, with small foliage, and flowering very profusely, made an excellent line near the margin of a large bed, and would be very effective in parks and other large places.

Although the bedding plants are the principal object to which we wished to direct attention, a few remarks on the other features of the nursery may be made. Mr. Turner's home ground at Slough altogether amounts to twenty acres, and his nurseries at Salt Hill and Uxbridge to as much more. In various parts of the ground, and especially near the entrance, are several fine specimens of *Aranea imbricata*, *Wellingtonia gigantea*, and *Picea Nordmanniana*; and of the latter, as well as of *Picea nobilis*, we observed fine quarters of seedling plants in the best of health, and of a size fit for planting. *Picea Nordmanniana* and *nobilis* are somewhat of a speciality with

Mr. Turner. He grows them to the extent of several thousands, and, in common with the other Conifers, much labour is spent upon them in transplanting every year. Of Roses Mr. Turner has about four acres, occupied by plants remarkable for the health of their foliage and the size of the wood. Besides the standards and dwarfs, there is an extensive stock of pot Roses plunged in the quarters. The Rose-quarters, notwithstanding the hot dry weather, are in excellent bloom, and the following Hybrid Perpetuals were especially fine—viz., Charles Lefebvre, Leopold I., Marguerite de St. Amand, Madame Victor Verdier, Maurice Bernardin, Duchesse de Caylus, La Duchesse de Morny, Dr. Andry, Duc de Rohan, Pierre Notting, and Mdlle. Bonnaire. Among Teas we noticed the beautiful Alba roses, which is very free-flowering out of doors, Madame Villermor, Narcisse, and Homer, an edged Rose, very useful for cutting for bouquets. Jean d'Arc seemed a nice free-flowering garden variety. Near the Rose ground was a space enclosed by hedges, in which were about 1700 pots of Carnations and Picotees.

In the houses, as already mentioned, the Pelargoniums were either cut down or ripening off, and several large houses were filled with such plants; others contained the large show specimens of Azaleas completing their growth; and in other houses were some four hundred Achimenes, several pots of Lithum anatum, and a number of Gloxinias. In a range of pits there was a number of bouquet Dahlias, and as these are becoming great favourites we asked Mr. Turner which he considered the best and most useful, when he named the following:—Burning Coal, deep yellow, with intense scarlet tip; Dr. Schwebes, rich scarlet; Glow-worm, bright red, fine; King of Purples, dark purplish maroon; Little Arthur, crimson, good bedder; Little Love, puce, shaded rose; Little Mistress, violet purple; Multiflora, light bluish, tipped with violet purple; Month Light, bright scarlet, fine; Prince of Lilliputians, maroon; Progress, pale peach; Shadow, rosy crimson.

Turning from the houses again into the principal walk, by the side of which is a very effective ribbon border, planted with Lobelia Paxtoniana in the front row, then Aurea floribunda Calceolaria, Stella Geranium, and Double White Pyrethrum alternately with Perilla nankinensis, we passed on to the ground where there is an extensive stock of Apples, Pears, Peaches, and Nectarines, with strong, solid, short-jointed wood. Here were several rows of Premier Pea, remarkable for its extreme productiveness. It is a late, green, wrinkled Marrow growing 4 feet high, as already stated an extraordinary bearer, producing on an average seven peas in a pod, sweet, and of excellent flavour. Although said to be nearly allied to Maclean's Prolife, certainly the two as grown at Slough from seed sown the same day were very different both in height and productiveness.

ENTOMOLOGICAL SOCIETY'S MEETING.

THE July meeting of this Society was held on the 2nd inst., the President, Sir John Lubbock, Bart., F.R.S., being in the chair. The Hon. T. D. Grey, M.P., and C. Ward, Esq., of Halifax, were elected members. A number of valuable entomological works recently published by the Society were upon the table.

Mr. Stainton exhibited a head of *Typha latifolia*, showing the manner in which the caterpillars of the small Moth, *Laverna phragmitella*, feed within it; also specimens of a *Gelechia*, closely allied to *G. leucomelanella*, which he had succeeded in rearing from galls found upon *Gypsophila saxifraga*, Mentone, in the spring. The occurrence of galls formed by *Lepidoptera* insects, the larvae of which reside within them in the same manner as the *Cynipide*, is very rare. Mr. F. Bond exhibited the rare *Scia philanthiformis*, *Dianthia coccinea*, and several species of *Phycita*, one of which appeared to be undescribed, all from the Isle of Man, collected by Messrs. Hopley and Greening; also some bred specimens of *Papilio Machaon*, remarkable for their gigantic size.

Mr. Edwin Shepherd also exhibited a specimen of *Dianthia coccinea*, supposed to have been taken in Yorkshire by Mr. Bentley. Mr. Edward Saunders exhibited a collection of Mexican Butterflies, recently formed by Mr. Bouchard, amongst which was a remarkable specimen of an *Euterpis*, in which the colours of the different sexes were shown by the opposite wings, the right side being white and the left yellow, with the ordinary dark markings.

Mr. Pascoe called attention to a paper by Mr. Albert Müller, in the "Zoologist," and read an extract from Von Tschudi's "Thierleben der Alpenwelt," relative to the action of insects settling or falling upon the snow at considerable altitudes in Alpine situations, and upon the manner in which they then sink into it, in consequence of the radiation of heat from their bodies, as stated by Mr. Pascoe in a former communication to the Society. Professor Brayley considered this to be the true cause of the phenomenon, and that it did not result from the presence of an increased amount of oxygen in the melting snow, as

had been asserted by some writers. Professor Westwood instanced similar results produced by the falling of hives on snow in this country.

The President read a series of extracts from M. Balbiani's recently published memoir on the microscopical anatomy and physiology of Aphides, in which, from the structure of the cells of the ovarian tubes and other curious particulars, the author was disposed to consider that the common Plant Lice are truly hermaphrodites, by which the production from a single Aphis of eggs and young for many generations, might be accounted for. It was, however, suggested that the production of decided male and female Aphides with fully developed wings at fixed periods of the year, seemed to militate against such a theory.

Mr. Stainton gave an account of an epidemic which had broken out on the Rye in the neighbourhood of St. Etienne, caused, as was believed, by the attacks of the caterpillars of a small Moth, *Ochsenheimeria taurella*, which gnaws through the stems below the ear, and not by its feeding on the flowers of this cereal, as had been erroneously stated. Some notes were read on the caterpillars of the two Butterflies, *Charaxes jasius* and *Melitene proterpia*, found in the south of France by the Rev. L. Timina. The former is becoming very rare, in consequence of the *Arbutus medea*, on which the larvae feed, being gradually rooted up for fuel by the peasants, especially near Hyeres. Mr. Stevens exhibited specimens of two species of the remarkable Corned Beetles, *Duronoccephalus*, from North India and China, and the Secretary communicated a note from the *North China Herald* on the large trade in Chinese insect-wax, in which it was stated that as much as 5000 cwt. was annually exported from one port in the north of that country.

COUNTRY SCRAPS.—No. 2.

AGAIN, amongst the Yorkshire flora is found the *Tulipa sylvestris*. Smith says of it, that its favourite habitats are old chalk-pits, but that it is not common, and he mentions as localities, "chalk-pit at Carrow Abbey; near Norwich; near Bury; at Whipsnade, Herefordshire; at Melbury, near Shaftesbury; and on Muswell Hill, Middlesex; also in a field near Hamilton, Scotland; and near Brechin." He describes the flower as "somewhat drooping, sweet-scented, bright yellow, externally greenish. Linnaeus and Haller thought this plant had escaped from gardens in Sweden and Switzerland. It is, however, perfectly wild at present, and extremely abundant in many old chalk-pits, though the bulbs run so far into the ground that they rarely flower. Nothing can be more distinct as a species." Thus far writes Smith of the plant in question, he does not mention its Yorkshire home, which I find is "between Haxthorpe and Sprotborough brooks." (Yorkshire again! What can the word mean? Is it a dene or a marsh?) "Brooks," yes that is the word, and I think we must invoke some Yorkshiremen to enlighten us as to its meaning.

The foregoing difficulty reminds me of one equally unresolvable, which occurred to me in a walk through York some years ago. Passing an ironmonger's shop displayed in large letters upon a printed card, was—"A Fog to Let." A "fog" to let! Whatever is a "fog?" The usual acceptation of the term I understand, but taking it in that sense, I think there would be few demands for such a thing. Well, I pondered and pondered, and no nearer did I arrive at any satisfactory conclusion, so I determined to let the weighty matter stand over until I returned to my brother's. What a hearty laugh greeted me as I asked for a solution to my query. "Was it a dogcart or a mangle?" "A dogcart! or a mangle! Why, don't you know what a fog is?" "No, I have not the remotest idea, but something evidently connected with ironmongery." Another laugh was all the response for some minutes, and then came the long-anticipated revelation. A "fog" was the second crop, or "after-grass," as it was sometimes termed, which sprang up after the first had been cut and made into hay.

I must confess a great ignorance of Yorkshire words, I am only acquainted with the native hospitality, and tables groaning under the weight of mysterious pies, and cakes of all sorts, the names of which I also in my confirmed simplicity enshew. I know that the mention of the various Ferns which beautify the hills and dales there causes me very often to covet their possession, and I am ashamed to say it was just after coming from a missionary meeting the other evening, and whilst sitting at supper near a Yorkshire clergyman, that he innocently enough aroused the covetous nature which dwelt within me, by giving me the details of an excursion which he and his family had lately made into one of the wilder spots in his own grand county. It was, I believe, at a distance of some miles beyond Bolton, that they came upon a complete mass of *Poly-podium phegopteris* and *P. dryopteris* intermingled, all grow-

ing amongst the wildest rocks, which yet were apparently covered with verdure; there, too, grew in rich bosses the *Ruta muraria*, and another Fern of rather a larger growth, and which he described as consisting of a frond divided into three portions. "Not being great at Ferns," he said, he could not venture upon names, but he thought this one was called the Ivy Fern. My great pet, the *Cryptopteris fragilis*, also reigned there in its pristine beauty, and by its side *Asplenium viride* and *trichomanes*. All the above rioted together in one small spot, and probably had remained for years in undisturbed luxuriance and solitude until the fatal day when the clergyman and his boys ransacked the place.

I find that both the Beech and Oak Ferns are rather common in this county, and that in a wood near Whitby they grow in large patches upon some fallen trees. Oh! these hilly countries, with their brave northern breezes, are the true homes of chieftains, and of border lore, and of Ferns and Heather. Many a tradition of the rough times lang syne may be heard when weary with our excursions we sit down awhile, and enter into a chat with the guide wife, who, with her knitting in her hand, welcomes us to her cottage door; and not only must we seek these traditions amongst the lowly, for they are engraved on the heart of the high-born border lady also, whose cradle song was a recital of the valiant deeds done by her ancestors, and whose childish hours by the dim firelight were beguiled by details of ancient struggles for life and glory, and it is her woman's pride that she

"Lives in a mountain land,
Where a flight without wings is at her command."

With the poet she sings—

"Above, the king eagle's realm we share;
Below, the haunts of the shy brown hare:
Thousand fields with their lakes a-shine,
Far hamlet and town, and the ocean line,
Beechen valley, and Bilberry dell,
And glen where the echoes and fairies dwell,
With heaps and bosses,
Of Plume Fern and Mosses,
Scarlet Rowan, and slight Bluebell.
The Plume Fern grows by the waterfall,
Where the Ash sprays tremble, one and all,
And cool air murmurs, and wild birds call."

But I love our southern lands, I think, the best—the feminine habits, quiet pride, and gentle bearing of the women; and in strolling our long summer evenings, through the woodland paths, when nought but the nightingale's love song is heard, then there is more that speaks to the heart of purity, and love, and heaven, than the dark Pines and aurora borealis of the north.—A SURGEON'S WIFE.

SOME OF MANY THINGS ON A SMALL SCALE.

My garden altogether is about two acres, and I have in one block a small Mushroom-house with the bed 12 feet long, and the furnace at one end, which is fed outside, and wall covered inside the house with brickwork and sand—two pipes heat this house; then I have a small place 12 feet by 9, which I dignify by the name of theinery. There I have Muscat Hamburg Grapes just colouring, and I train Brown Turkey Figs against the back wall, and the trees bear abundantly, though many of the fruit are rather deficient in flavour. This house is heated by two four-inch pipes round the front, one end, and the back, with troughs on the pipes; and there is a small cistern, fed by the flow, and emptying into the return, so that the water constantly circulates and gives a handy supply of warm water when required. This cistern is placed in the division wall which separates "theinery" from the adjoining house, and thus supplies both; this adjoining house I call the Fig-house; it is of the same size as theinery, and is planted with the White Marseilles at the back, and the floor is divided by a narrow path into two borders, where other Fig trees are planted, and seem doing well. There is a border outside in which are the roots of two Vines which I am training across the house, one stem from each, which will not, I think, unduly shade the Figs. In front of this, 9 feet distant, I have a Cucumber-house 17 feet by 7, with a four-inch pipe in front, three ditto under bed, and one ditto at back, which flows into a large cistern emptying into the return, and creating abundance of steam. All the pipes are, besides, troughed, and I can fill the troughs under the bed at pleasure. Near this house stands the orchard-house, 42 feet by 14, with a four-inch pipe, troughed, running round the front 30 feet of it; I only use this pipe in hard frost during the blooming period. The trees are in 15-inch pots.

I have been thus particular in my description that you may see I am fond of a garden, and not likely lightly to wish to give up any part of it. The whole of these buildings are on my own plan; the furnace in the Mushroom-house heats them all, or any portion of them at pleasure. It has been my custom to work my garden by employing lads out of the village. I teach them all I can, and at about eighteen years of age procure them better situations. I have had two at a time, and the under one is able to become the head when the older one leaves me. I begin with 4s. per week, and raise their wages to 12s. or 15s.; I take the boys at about fourteen years of age. I also employ a clever labourer for the heavy work when required. I am the parson of the parish.

Now as to the orchard-house trees. They are greatly improved since I wrote last, and I see no disease on the new leaves. I have thirty-two Peaches and Nectarines, and I think perhaps twenty dozen fruit will stand. One end of the house is filled with Plums and Cherries, and the other one is a blank. This is my third season. The trees are most carefully and regularly tended. In the autumn we take out the soil 4 inches wide and 6 inches deep, and replace with new soil enriched with manure. We top-dress in summer with horse-droppings and malt dust. We syringe well every evening (I tried it in the morning also, but the leaves got scorched), we water according to the weather, we pinch in the shoots, we move the pots during the summer to break the fibres rooting through the holes, we carefully watch for insects, dressing when required with soft soap and quassia, we give air early and abundantly all round the house; but each year the first growth of leaves becomes as it were burnt at the tip, the burn gradually extending upwards till half the leaf is gone, and comes off in your hand like tinder. This is the case with almost all my Peach trees—Plums quite as bad as Peaches; some of the Vines and Figs which are in borders, some in inside and some in outside borders, are affected too. What can be the cause? I thought, perhaps too much water. I thought that perhaps we had not rammed the new soil enough, as the water certainly passes very quickly through the pots. I can detect no insect at all. The water is chiefly rain water; as I have close to my house a large brick tank, but when rain water fails I supply the tank with hard water by a flexible tube from the kitchen pump. This, however, seldom is required in the early summer, and that is the time when the mischief appears. I have sent the leaves to various persons, and can get no cure prescribed. I dislike to see the foliage damaged, and to be unable to apply a remedy. I am, however, glad to say that the weak wood seems strengthening. I cannot help doubting—first, whether it is well to be so often breaking off the fibres which root through the pots into the border; second, whether the incessant pinching of the shoots as advised by Mr. Rivers is well—it seems to snub the trees and fairly tire out their good humour. I am inclined to let the shoots grow longer, and not shorten more than two or three times at most in the summer, for I suppose growth of shoots promotes action at the roots. My Cucumbers are good, I have cut nearly two hundred; not being able to sow the seed till April 21, as my alterations were not finished till that day. My Melons are good, I have thirty-five in one four-light frame, each about 18 inches round, and these were very late-sown also.—INQUIRER.

[The arrangements, so far as the description goes, seem to be handy and economical. In theinery the want of flavour in some of the Figs against the back wall is owing to the shade, and if the Vines are allowed to monopolise the whole of the roof the Figs would first be flavourless and then cease to produce altogether. To keep these Figs in good order the Vine stems should not be less than 3½ to 4 feet apart, and spaces should be kept open for the light to reach the Figs. We knew ainery where the Figs did well against the back wall, but the Vines obtained the mastery, and by degrees the Figs became barren, except a little piece close to the ridge, where they managed to get light. The same remark applies to the Fig-house. One Vine trained lengthwise about the middle of the house will do no harm, but, if several stems are taken, the Fig trees will suffer. Because the tree flourishes as respects growth in comparative shade, many people think that it will fruit also in rather dense shade, but they will ere long have such an idea dissipated. In fact, Figs require quite as much direct light on the foliage as any other fruit-bearing plant, but, provided the foliage has thus plenty of sunshine, the fruit will be best when shaded by their own leaves.

2nd, Your arrangement of the water-cistern with the hot-water pipes passing through it is very good. Partly through our recommendation such cisterns or tanks are found in scores of

places, and yet we have still nothing of the kind, and feel a difficulty often in obtaining the necessary amount of warm water. Advising and practising are, therefore, frequently different things. We know of no plan so good for obtaining moderately heated water. A boiler, large copper, or kettle, is also useful for securing very hot water when desirable. We would often boil manure water made from different kinds of droppings if we could, and thus avoid taking the eggs and larvae of insects into our soil.

All the other arrangements, and the modes of management seem very satisfactory.

3rd, After carefully reading your treatment of the orchard trees in pots, we have no doubt that weakness is the chief evil with which they are affected, and that weakness might be the result of using too large pots at first for the size of the plants, and too little or too much nourishment, or an unsuitable soil in the first case. To make sure of the soil, as soon as the fruit is gathered, we would advise turning some of the plants out and examining the roots, giving fresh loam, if necessary. There is also just a possibility that the droppings you use for mulching may be rather fresh. If used fresh, and from high-fed horses, the water that passes through them at first will be rather strong; but we can lay no great stress on this, in such a case of experienced gardening, and where other subjects are thriving so well. We think you have alluded to some things in the treatment that will at least tend to promote weakness, and render the plants less able to withstand the sun's rays in spring and early summer, such as—

1st, The cutting off the fibres so often that come through the holes in the pots. We would advise never doing this except in the autumn, to help the ripening of the wood. We would never touch them during the summer. Hence the advantage of pots standing on soil, or at least partly in the soil. These fibres encourage growth, and the swelling of the fruit.

2nd, There may be something in the soil being so loose. It cannot be made too firm, with the help of a round stick to beat it firm.

3rd, You can hardly in autumn, if the trees are growing well, take away 6 inches of the surface soil without taking away and injuring the surface fibres, and this should be avoided. If you can pick out the soil carefully from among a few fibres, and put fresh soil among them, and water so that they suffer no check, all well; but when much depth can be removed with safety, we would almost be inclined to fresh pot at once. If the fibres are near the surface and healthy, be content with from 1 to 2 inches of fresh compost.

4th, In such a condition of your trees you are quite right as to the early and continuous stopping. Let the shoots be 6 or 8 inches long before nipping them, and do it seldom until the trees have gained strength.

5th, After cutting the roots through the holes in the pots in the autumn, top-dressing, watering, &c., do you leave the pots exposed to what weather may come in winter, mild or frosty, with only the glass protection over them? If so, here may be some cause of your disappointment. Pots plunged with a little litter on the surface, will be safe from the severest frost. Plants in pots however hardy, with the pots exposed to severe frost, will have the roots injured, if the soil is not drier than it ought to be, to be safe. If the pots were exposed all the winter, this might render the roots less able to meet the wants of the expanding leaves early in the season. If protected, of course the idea goes for nothing.

Lastly, Be the real cause what it may, as the scorching seems to take place only in spring and early summer, and you give air early and plentifully, if you have no openings at the ridge we would have some made, as the syringing in the morning ought not to blister the leaves if there is plenty of air and the glass is free from burning spots. That it is tolerably so we infer from the fact that the points of the leaves wither up and the blisters are not made in the body of the leaf, leaving the inference that in hot sun the plants have more demands on them than they can meet. We would, then, for a season or two lessen these demands in the early summer months by slightly shading the house. This may be done by many means. One of the simplest and the best, so far as economy is concerned, is spattering the glass with whitened water, say a piece of whitening as large as a good-sized marble powdered and dissolved in a pail of water, and thrown neatly on with the syringe. This done in the early sunny days might enable the plants ere long to meet all the demands upon them without flinching. These large squares of glass in orchard-houses try plants at all weakly much more than the old houses.—R. F.]

MIGNONETTE CULTURE.

I MAY be excused recurrence to the cultivation of this plant when I say I write in order to meet the wishes of many correspondents. I am the more diffident, as at page 430, Vol. V., New Series, I gave my then experience; and in Vol. IV., page 272, our able and experienced coadjutor, Mr. Fish, goes fully into the subject. It is not that I have anything to add to the one article or differ from the other, but solely from the number of inquiries, that am I induced to take up the subject.

For some time I have striven to obtain a hardy Mignonette having the fragrance of *Beseda odorata*, but my attempts have hitherto proved unsuccessful, for neither our own species (*B. lutea*) from the chalk, nor its near neighbour from the Mediterranean (Palestine)—viz., *B. mediterranea*, a large flowering annual, will hybridise with the Egyptian species (*B. odorata*). Question, Is there any known hybrid between an annual or biennial and a perennial?

The out-door culture of Mignonette is that of a hardy annual. Like many it does the best from self-sown seed, and in some instances is the reverse of certain from sown seed. Ground that at any time has been occupied with Mignonette will for many years annually produce a number of plants; but in one or two instances seed has almost entirely failed on ground newly broken up, and though there were few plants in the first year, in the second their number was by no means small.

Mignonette thrives best in a rich, loamy, well-drained soil, and does fairly in most soils and situations. It succeeds best when sown not very early, and when the soil is in good working order. The ground should be well worked, enriched by a dressing of leaf mould or well-rotted manure, pulverised, and raked fine. The seed should be scattered thickly and evenly, for it is much easier to thin than to transplant this plant. The end of March is sufficiently early to sow on light and dry soils, but the seed will vegetate more freely if it be not sown so soon, the plants coming up when self-sown chiefly during May. On strong soils it does best when sown from the beginning of April to the middle of May, and that is the time during which the seed is most sure to vegetate. The seeds being sown, they should be thinly covered with light fine soil to the depth of about a quarter of an inch. Should the weather prove dry, a gentle watering occasionally will do much to secure speedy germination, and the healthy growth of the young plants. When sufficiently large to handle, the plants should be thinned to 8 inches apart, which is a good distance for plants in lines; but for clumps it is not well to leave more than five of the strongest, and for beds they should not be left nearer than 6 inches apart every way. The size of plant and flower are dependant on the goodness of the ground and room afforded the plants. An open situation is the only suitable one, and beyond a good watering during dry weather, nothing more is needed for the growth of Mignonette out of doors.

Its culture in boxes is the same as that in the open ground, only the box should have holes at the bottom, and a drainage of crocks or the siftings of the compost to one-fourth the depth, the remaining space to be filled with a compost of good turfy loam two-thirds, and one-third leaf soil. A gentle rapping of the box on the potting-bench or floor will settle the soil sufficiently to allow of the seeds being sown and covered with soil, leaving space below the edges for watering. The box being placed in a warm situation, the seed may be sown in March, and if the soil be kept moist the plants will come up well. In their early stages the plants are impatient of much watering, and it is only after they attain a good size, have been thinned, and fill the box with their roots, that a good supply of water is necessary, and then weak liquid manure may be given at every alternate watering. To have fine plants it is necessary to thin them well. To have fine, healthy plants, successional sowings may be made up to the end of May or the beginning of June.

IN POTS.—For plants to bloom early, or in autumn and through the winter, small and clean pots should be selected, and those known as 60's are the right size. These being drained, and filled to within half an inch of the rim with a compost of turfy loam, leaf mould, and sandy peat in equal parts, with a free admixture of silver sand, and the surface being made smooth, scatter half-a-dozen good plump seeds thereon, and cover with a quarter of an inch of fine soil. The back of a Cucumber or hotbed-frame is the best position for the pots, and there the plants will soon appear, the soil being kept moist. When the plants come up the pots should be brought as near the glass as practicable, and give air plentifully to keep

the plants stiff; when they are half an inch or so in height make choice of the two strongest and cut the others away just below the surface, and by the time these have grown an inch in height the weaker one should be cut away.

When the pots are full of roots, but before these become matted, shift the plants into 4½-inch pots, and plunge the latter in a mild heat and near the glass, and on side shoots appearing pinch out their points at the second leaf, placing a small stake by the leader or centre shoot, which is not to be stopped until it shows for bloom, then its point must be taken out; and all the side shoots as they appear should be closely pinched-in to one joint, being careful in removing the centre from them not to remove the leaf along with it. The stake should be put in at a distance from the stem, say 1½ inch, for as the plant grows a stouter stake will be required, and it is desirable to have it in the same hole, so that the roots may not be injured in thrusting it in. The stem is to be neatly and loosely tied to the stake, and when this becomes too short it should be replaced by a longer one. If the centre shoot for flower take out its point, and the strongest and best placed shoot proceeding from the stopping should be trained in its place. This may require to be done repeatedly before a stem 20 inches or 2 feet high can be obtained, and until the height of stem required be attained no flowers should be allowed to remain on any part of the plant, but all should be pinched out so soon as they show. The leader not being pinched, or only to prevent flowering, and the side shoots closely pinched, the centre shoot will grow up, and when it is as high as you wish, pinch it, as well as the side shoots, whenever they show for flower, and this is to be continued until the plant becomes well furnished.

The pots being pretty well filled with roots, the plants may be potted into 8-inch pots, or, if strong, 12-inch pots will not be too large, as this is the last shift; but if the plants are extra strong, and extra-sized specimens be desired, a 15-inch pot may be employed. At this potting the soil should be chopped and broken with a spade, but not sifted, as it is desirable to have it free and open. It may consist of two-thirds turfy yellow or hazel loam, and one-third leaf mould, and still further to guard against moisture becoming stagnant, add one part each of lumps of peat of the size of a hazel up to that of a walnut, and charcoal of the same size, the whole well mixed. The pots should be cleaned and efficiently drained, that being of primary importance. The plants should be well watered prior to potting, so that the soil may be moist at the time of potting, and yet it should not be very wet. In potting, as the soil is rough, it should be pressed tight, the centre of the pot kept rather high—that is, the collar kept at least on a level with the rim of the pot, and the surface covered with half an inch or so of fine soil. The soil being in nice condition as to moisture, and a nice mild hotbed at command in which the pots can be three-parts plunged, the roots will soon extend themselves to the fresh soil, and take firm hold of that. The plants will do best in a cold pit and elevated on an inverted pot, as then the water drains away freely, and they can be brought the nearer to the glass. They cannot have too much air, and a gentle syringing morning and evening is beneficial, they being kept well supplied with water; but anything like deluging them is injurious. As a rule, they should not be watered so long as the soil remains moist.

I am averse to any training of the head by means of sticks, wires, &c., and would much rather see a smaller specimen than one displaying more ingenuity in the arrangement of stakes and wires than is shown in that of the head without them, it requiring no little care and judgment (as the shoots are so very brittle, and liable to part from the stem whence they take their rise), in the disposal of the shoots, so as to produce a good and evenly-balanced head, and it is a result that only skill and practice can secure; but if the requisite care and judgment cannot be exercised, then a stout stake should be put in in the place of the old stake, and it should be as high as the plant is required to be. A stake half an inch in diameter is not too thick. I then burn a small hole through the stake on a level with the rim of the pot, and another immediately above it in the opposite direction, and through these holes push wires that reach 6 inches beyond the rim of the pot, and a wire fastened to the points of these will form a circle, and two or three more inwards from that will furnish means for fastening the shoots. Six inches higher up the stake I repeat the same proceeding, only the circle is 6 inches less in diameter, and in this way proceed until the top of the plant is reached within 6 inches, lessening the diameter of the circles 6 inches

for every 6 inches of height. This is the way to form pyramids; and if we wish for a stem the process is the same, only we put the first wires where the head begins. The shoots will require training and tying, and, perhaps, stopping, in addition to nipping off the flower-buds to make them branch; but I usually find the stopping consequent on the removing of the flower-buds sufficient.

The removal of the flower-buds should be strenuously persisted in until the head is formed, and afterwards no truss should be allowed to pod, but on the blooms seeding they should be removed, and this is the secret of keeping the plants healthy and profuse-blooming. The pots being full of roots, weak liquid manure will be of advantage once or twice a week, and it may be given whilst the plants are in bloom, but not in dull damp weather. Until the pots are full of roots water should be given rather sparingly, and at all times with care, for a deluging of water is a certain forerunner of a stagnant soil, the sequel being a sickly plant. The plants should, however, have the soil kept moist.

A light and airy situation and plenty of room, ensuring light equally on all sides, is desirable, and a temperature of from 45° to 50° suits the plants in winter, allowing a rise from sun, advantage being taken of that to admit more air, and of this they can hardly have too much to prevent damping.

Of the kinds I prefer the large-flowering, it being of stronger habit and bolder in truss, but what is gained in strength and largeness of truss is lost in the greater profusion of its less vigorous compeer's blooms and its dense habit, and in this respect I think the two kinds are in their claims nearly if not quite equal, but that is a matter of taste. The two kinds are the same in their requirements, but the common variety is the easier managed.

As to keeping the plants from year to year, I do not care about doing so, as they are only to be kept with care, that consisting in top-dressing in spring, and for a time stopping and thinning the shoots, not permitting any to flower during the summer, and keeping the flowers well thinned even during the flowering season, if the blooms are expected to be at all large, not suffering any to seed. It is better to raise plants annually, or sow the seed in spring, and grow plants on for blooming in winter and spring. They are stronger and better in every way than older plants.—G. ASBEY.

GOSSIP ABOUT CANTERBURY, NEW ZEALAND.

A FINE specimen of the Pomegranate fruit has been seen in Christ Church, from Governor's Bay, which shows the great advantage which the inhabitants of the Peninsula have over those on the plains in climate. *Glycine sinensis* is doing very well here; but Fortune's white variety has, to the best of my knowledge, not arrived in New Zealand yet. The leaves of *Ailanthus*, or Lady Dorothy Nevill's Silkworm tree, in a very vigorous state of health, are killed by a late severe frost. I do not know whence our Acclimatisation Society intends to obtain the silkworms for us. *Brugmansia Knightii* flowers and grows well out of doors here. Walnut trees have begun to bear fruit well at about nine years old. From acorns sown about ten years ago the young trees are bearing heavy crops. Sycamores of the same age are full of keys. Green Peas have been in season with me from November 18th to April 15th, a pretty good spell for Green Peas to be in season. The natives of Poverty Bay are said to have manufactured from Peaches, Plums, and other fruits, a species of rum or arrack, which has a highly intoxicating effect. We have now growing in one of our nurseries a variegated *Dracena*, or, in New Zealand phrase, a variegated Cabbage tree, found on Mount Sinclair. A new Grass has been discovered, as yet unknown to our New Zealand botanists. It is described as a beautiful species, somewhat resembling the ordinary *Arundo conspicua*, or "Toi toi," but larger. It is said to be somewhat rare. Japan Lilies flower very beautifully during our autumn months. Evergreens of all kinds make a second growth after our hot summer weather is over. Junipers and Arbor Vites now seed very freely with us, and the Cupressus as well. Double Petunias flower sometimes 4 inches across, and are of all shades and colours. Double Zinnias and double Clarkias have now become very plentiful in our gardens.

It is contemplated to form a new horticultural garden here. Application has been made by a deputation to our Government for a piece of ground for that purpose, and the Secretary of Public Works told them the terms on which the Society could

held a part of the Government domain, and that no title could be given the Society to the ground, but that it would be leased to them at a peppercorn rental for three years, subject to renewal at the pleasure of Government. Some of the members objected to these terms, thinking that the next Government might be less willing to encourage the Society than the present. I am afraid this scheme cannot be carried out for the present, public attention being drawn so much towards the gold fields; in fact, nothing else is talked about here with the exception of politics.

Lilium lancifolium punctatum flowers and does well in this country. Onions grow to a very large size here. One this season weighed 1 lb. 9 ozs., and its dimensions were 15½ inches by 13. Roses bloom very freely a second time in the autumn, particularly the Bourbon section. They make a second growth after our hot summer months. This autumn, also, we have a good show of *Chrysanthemums*, particularly with Fortune's Pompon varieties, some of them form quite a bush, and produce thousands of flowers. The different kinds of Thorns have begun to fruit with us as well as the Mountain Ash. Pinus Pinaster, now from 15 to 20 feet high, very full of cones and some of them shedding their seeds on the ground, may be seen here and there about Christ Church. This was the first Pinus planted in Canterbury. Grafted Rose Acacia on Cobbett's Acacia (*Robinia pseud-acacia*), as standards, are doing well and flower beautifully the first season. We have now growing here for the first time this season seedlings of Catalpa, thousands of Yews, Judas Tree, *Celtis orientalis*, different varieties of the Plane Tree, from imported plants, all flourishing and doing well.

The other day, April 10th, I read an advertisement in one of our newspapers under this head—"Notice to Landscape Gardeners. Tenders are invited for laying out a garden according to plan and specification to be seen at a certain seed shop in the town. Sealed tenders to be addressed to the owner before such a date." This is a novel way in doing business in gardening matters.

On April 7th, heavy clouds during the day indicated rain, and in the afternoon flashes of lightning were observed. In the evening several showers of hail fell, accompanied with rain. Towards morning the temperature lowered considerably, and a sharp frost was experienced, which left evidence of its severity upon Dahlias and tender annuals in exposed gardens—a timely warning for us to protect without delay. On April 17th, we were visited by a very violent gale from the south-west. It had been gradually rising for some time, and increased in intensity about 6.30 p.m. By five it had reached a terrific height. The stem of a fine specimen of Pinaster Fir, about 20 feet high, and very full of young cones, was split in two, and one-half of the tree now lies prostrate on the ground, and much other damage has been done to forest trees in particular. It denuded the trees of all their leaves, with their usual autumnal tints. I always notice when we read of bad weather in England, we come in for our share here sooner or later afterwards. The wind blew the squares of glass out of my frames, and sent them flying all over the place to a very great distance.

Wellingtonia gigantea, *Cedrus deodara*, and *Cupressus macrocarpa* are becoming great favourites here, for they grow very fast and soon form handsome plants. We now have seedlings of Cedar of Lebanon doing well for the first time this season. We are only 21 feet above the level of the sea on the plains.

Our provincial geologist with his staff returned to Christ Church on the night of April 19th, from the head waters of the Rakai, after an absence of six weeks. He has brought a very extensive herbarium of the alpine flora, containing many interesting undescribed species; also, a box of beautiful alpine plants in a living state for the purpose of acclimatisation, along with many alpine birds hitherto unknown. He mentions the scenery to be as magnificent and stupendous as any in the world.

Letters have been received here from Dr. Mueller, of Melbourne, stating that our *Pittosporas* are such lovely, hardy, and quick-growing plants, that thousands of them are wanted for the cemeteries, town churches, and schools of Victoria. He states that seeds of them will be accepted with the utmost gratitude, also that they have not a single plant of our *Aralia Shalifera* (?) Our *Dicksonia squarrosa* he states is very common in Victoria, but they have no *Cyathea dealbata*.

Our botanical news from the west coast gold fields is of a very cheering nature. One part of the country on the road from Christ Church would well repay the botanist for the trouble of a visit, the specimens of vegetable life being many

of them quite new, and also remarkable for beauty of foliage and blossom. Amongst them were seen *Ranunculus nivalis* (sometimes called *R. Lyalli*), distinguished for its circular concave leaves, at least 9 inches in diameter, supported in the centre by a strong stalk resembling in form that of the English meadow Buttercup, and for its large handsome blossoms of snowy whiteness. *Veronicas* are in great profusion. There is also a *Gentian* with pure white flowers, and many other shrubs and herbaceous plants of a very ornamental and interesting appearance. Amongst other plants are *Fagus Cunninghamii*, *purpurea*, and *antarctica*; *Capodetes serrata* (?); *Astelia nervosa*; *Celmisia coriacea*, *spectabilis*, *petiolata*, and *longifolia*; *Dracophyllum Traversii*; *Olearia Greyii*; three species of *Orchids*; *Clematis hexasepala*, and the yellow-flowering *Senecio Lyalli*. The most beautiful of all and in great profusion, clothing the sides of the hills with bright scarlet blossoms, are *Metrosideros lucida* and other varieties of the "Bata," or native *Myrtle*. Ferns are in great variety, and beauty on the west side of the range, especially *Leptopteris superba*, one of the rarest and handsomest of the New Zealand Ferns. The maximum temperature in the shade at Hokitika, on March 28th, was 67.0°; the min. 39.0°; range, 28.0°. *Tamarix gallica* we have doing very well with us now. Our winter is coming in very dry with cold, clear, frosty nights, and at the present time a few of those "golden showers," which Loudon describes as so favourable to agriculture and horticulture would be acceptable.

What I have been writing will show the attention which Canterbury is paying to gardening, that we have a good many gardeners at any rate, and I firmly believe that New Zealand is more calculated to make a happy home for gardeners than any other colony.—WILLIAM SWALE, May 14th, 1866.

[We wish that others of our readers in others of our colonies would send similar useful and interesting "gossip."—Eds.]

WORK FOR THE WEEK.

KITCHEN GARDEN.

Pluck the fork incessantly amongst the growing crops of Cauliflowers, Broccoli, and Winter Greens, and continue to manure and trench-up every piece of ground as it becomes vacant, in order to plant it with late crops of a similar character. Broccoli, by dint of good management and a knowledge of the kinds, it is possible in these days to supply a family with Broccoli or Cauliflowers all the year round. The most difficult period, perhaps, is the month of January. Many new kinds have come into notice of late, and many old kinds have been revived with new names. The following, if they can be obtained true, we would particularly recommend:—The Cauliflower, the Cape Broccoli, Grange's Impregnated (now sold under new names), the Branching or Sprouting, Knight's Protecting, Melville's Superior Late White, Somers's Particularly Late White, Snow's Winter White, and Walcheren. Somers's Particularly Late White is so very late, that it continues the spring Broccoli until early Cauliflowers come in. *Brussels Sprouts* are the hardiest and most prolific of Greens, and deserve attention even in an agricultural point of view. Too many can scarcely be put out at this season, and they may be planted very closely together. Cabbage, reserve and prepare a patch of ground for the sowings to stand the winter. The soil should be of a light sandy nature, and not too rich, as it encourages a luxuriant growth, which is apt to make them tender. Celery, prepare trenches for the late crops, water the growing crops, and stir the soil about them. Endive, plant out finally the strongest from the early sowings, and sow more for late crops. Lettuce, sow more, and keep up a good succession of Radishes and salads. Onions, pull up the crops of winter Onions, lay them in rows turned to the sun, and frequently turn them until the stalks are withered, when they will be fit for storing. As they are liable to decay if bruised, they should be carefully handled, and not thrown about like so many stones. Let them be very dry when stored, and be spread out thinly, not laid in heaps. Shallots and Garlic should also be taken up and dried for storing. Peas, the late-sown should have attention paid to watering and staking. Spinach, a good breadth sown now in rich ground will afford many successive pickings in the autumn, and tend materially to save the winter beds from being picked before they become strong.

FRUIT GARDEN.

Attend to previous directions in regard to thinning and

stopping the young shoots of all trained fruit trees, and now make the final thinning of Peaches and Nectarines, of course leaving the heaviest crop on the most vigorous trees and strongest branches. As a general rule no two fruit should be left together. Plums of the large kinds, as well as the finer sorts of Pears, should also be thinned if the crop is too heavy. Young Peach and Apricot trees, when making over-vigorous leaders, should have the points of the branches shortened to encourage them to make other shoots less vigorous and of a fruitful character. This will obviate the necessity of shortening them back at the winter pruning. Layer the runners of Strawberries intended for pot culture, as well as those required for making new plantations. All spare runners may be cut away, and keep the plants free from weeds. Thin and stop shoots of Figs as soon as they have made a growth of about 6 inches, and remove all useless shoots from Vines. Keep the fruit close to the wall and shaded by the foliage from the sun.

FLOWER GARDEN.

The various Roses should now receive constant attention, as to good staking, disbudding stopping, top-dressing or liquid-manuring, and budding. As to the latter operation, the principle of ripening the wood should be kept in view. The excitable kinds should be budded directly, and on stocks with a strong root-action, and those buds which push in a month or so after the process should by no means be suffered to bloom, but have their tops pinched off when they have produced four or five good leaves. They will then solidify their growth before winter. Proceed with the propagation of favourite sorts which it may be desirable to increase either by budding or cuttings. The Hybrid Perpetuals, Teas, Chinas, and Bourbons are generally preferred on their own roots, and firm short-jointed shoots of these root freely at this season; but to insure success they should be afforded a slight bottom heat, be carefully shaded, and not kept too warm until they emit roots. They will, however, root under a hand-glass on a shady border. Remove suckers. Cut back the shoots of the autumn-flowering varieties to the most promising eye as soon as all the bloom buds are expanded and begin to fade. Take up Ranunculuses as soon as the leaves turn yellow, and allow the roots to dry in the shade. Cover the blooms of Carnations and Picotees as they expand, placing cardboard collars beneath them. As soon as the Pink pipings root, prick them out in good soil. Look to Dahlias; when they have attained a good size they should have the side shoots properly thinned out, leaving three or four of the best and strongest shoots. Examine the fastenings carefully; if they have become too tight and are cutting the stem, remove and re-tie them with a stronger material, allowing plenty of room to admit of the stem increasing in size. See that the pots on the top of the stakes are gone over every morning, and all the earwigs that are found, destroyed. These insects, in common with others, are very numerous this season, therefore the greater the necessity for lessening their number.

GREENHOUSE AND CONSERVATORY.

Now that many of the Camellias, Azaleas, and other plants have been removed to their summer quarters out of doors, painting or other repairs required by any of the plant-houses will be more conveniently done than at any other season. When houses are painted sufficiently often to keep the paint always good, which is the cheapest method in the end, there will be no difficulty in getting the wood dry; but when the wood is allowed to become nearly bare before repainting is thought of, the house should be kept dry inside, covering the outside with some waterproof material in the case of showers, and allowing a week or ten days of bright warm weather to thoroughly dry the wood before the work is commenced. This is trying weather for hardwooded pot plants, and those who do not pay strict attention to them now will probably not find it worth their while a few weeks hence. Above all things see that they are not suffering from the want of water, especially on that side of the pot on which the sun's rays strike, and keep a sharp look-out for insects. The red spider will soon play havoc among *Ochorozemas* if not closely watched, as also the mildew on such plants as *C. Henchmanni* and *angustifolia*. To guard against both pests on these and many other plants, it is a good plan to lay them on their sides, and, after giving them a thorough good watering with a syringe and clean water, to dust the under side of the leaves with sulphur. This, after remaining on a week or ten days, may be washed off again, and will generally clean the mildewed plants for the season. A good watering will also be beneficial to most pot plants at the present time. We do not mean a mere sprinkling, but a thorough good wash-

ing to each plant separately. On hot dry days give the plants in the evening a sprinkling, and also the ground on which they stand. *Pimelea spectabilis*, and other kinds which have done blooming, must have the branches liberally shortened-in, and be set in a cool, shady place to break, as must also the different kinds of *Polygalas*. *Aotus gracillima* must be cut down close to the pot; and *Leschenaultias*, which are becoming shabby, must have all the flowers and flower-buds removed, and be placed in a cool place to start again. Take care that they are clear of insects, and sprinkle them once or twice a-day in warm weather. Lose no time in bringing the potting of specimens to a close, and be careful with the plants afterwards until they begin to show signs of growth.

STOVE.

If there are sickly or bad-rooted specimens here they must be frequently examined for red spider, otherwise they will become a nursery for this pest, from which it will soon spread to adjoining plants. See that young growing stock is not allowed to suffer for want of pot room, and attend carefully to watering, giving manure water to all plants in free growth that enjoy it. *Gardenias*, &c., which have been removed to the conservatory while in bloom, should be replaced in heat as soon as their beauty is over, in order to allow of their growth being ripened before the dull, cloudy days set in. Encourage the progress of the young stock for winter blooming, maintaining a moist and comparatively high temperature.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

PLANTED out Coleworts and *Ulm Savoy* in a dull day. These will do very well 12 or 14 inches apart. This *Little Savoy* is useful in the autumn, and takes but little room. Sowed Turnips and Radishes in shade, on the north side of banks, and planted out Lettuces, Endive, &c., and Cauliflower that had been previously pricked out, lifting with balls, and planting in a trench. We were disappointed on examining a piece of Cauliflowers to-day, which on passing along we had frequently admired on account of their dwarf appearance, the huge leaves resting on the ground. As some of the leaves had a greyish appearance, we gave the plants a watering from the house-sewage tank, and then we found that our healthy, fine-looking, dwarf specimens might as well have been on the rubbish-heap, as the centres had all been nipped out, either by pheasants, partridges, wood pigeons, or some similar fraternity. This had been done long before the flower had formed, and if the whole piece had been so treated, we should have been at a loss for a succession.

The chief work in the kitchen garden has been hoeing and loosening the ground among all growing crops; for the late rains, and the subsequent bright sun had left a hard surface, which would soon have evaporated the moisture, and cracked our stiff soil into fissures. It is amazing where such armies of weeds could come from, for where a fortnight or three weeks ago a small one could not be seen, the ground became covered with a mass of rampant intruders, and if let alone would soon have been beyond the reach of the hoe, and weeding by hand must not be thought of in these days, if it can possibly be prevented.

Gave good waterings to ridge and Gherkin Cucumbers, Vegetable Marrows, &c., and some sewage water to crops of Greens, Savoys, &c., and threw a little salt among Sea-kale, and Asparagus rows. Cucumbers in beds that were becoming exhausted, were cleared off, and the places well cleared and supplied with fresh soil and fresh plants. We have seen nothing of the cucumber disease this season, but it is provoking that even now we cannot tell either what brought it, or what took it away. When it does make its appearance there seems nothing so effectual for keeping it in check as frequent changes of crop and fresh rather poor soil; but after having been a little troubled with it for years, we are as much in ignorance about it as ever. It seldom made its appearance with us until late in summer, the early Cucumbers being free from it, and just as people with a little box began to have Cucumbers in plenty, with us they began to be scarce. Last season we only had some traces of it late, and we hope this year we shall have none at all; but it is yet too early to speak with certainty. When once it takes possession of a plant great care may prevent its progress, but we never could make such a plant thoroughly healthy again. The best plan is to take what it will give, until you have fresh plants to take its place.

If rain do not come in a day or two, we shall be obliged to water, much against our will, as the moisture which comes from the clouds is more refreshing than anything we can give in that line, at least, on a large scale; for a small space might be watered in an evening, when it would be out of place to attempt so treating a large garden, unless arrangements were made accordingly. In general, garden labourers require the evening to look after their own gardens.

FRUIT DEPARTMENT.

A main feature of the week has been securing fruit, as Strawberries and Raspberries for preserving. The glut of the former is now over, and the fruit will be smaller in consequence. We could keep none except what were netted. Raspberries we kept pretty closely picked as they ripened, and used many modes for keeping intruders away. Cuthill's Black Prince Strawberry makes a beautiful preserve; it is so much firmer than the old small scarlets that were so much admired. What has been procured latest will be the best. What was gathered soon after the heavy rains would need more boiling.

Every year there come in our way many wondrously economical plans for preserving small fruits. We scarcely ever found out the economy of using less sugar than a pound in weight to a pound of fruit, or a similar amount of sugar to a pint of juice. If much less is used you must diminish the quantity by boiling longer than the regular twenty minutes, or you run the risk of mouldiness, or wasting away, after you have put your preserves into dishes. Some time ago a lady, who baked her sugar and baked her fruit before squeezing and boiling all right enough, attacked us very triumphantly on our scepticism, and boasted how she used hardly more than half of the pound of sugar, and that her preserves always kept well. On requesting to see a dish some six weeks after making, even then the triumph of economy was considerably lessened, as the vessels that were filled were not more than half filled when thus examined.

Cherries, that in ordinary weather and securely netted would have lasted some time, will have to be used ere long, as the excessive heat is causing them to be inclined to shrivel, and in some cases ants are attacking them. Some blackbirds get their feet entangled in flying against the netting kept well out from the wall, but they will often cause the net to rebound to the wall, pick the best Cherries through the meshes, and get off with flying colours. To be safe from them the net should be scarcely of one-half-inch mesh. Even then, if the net be close to the trees, or can be made to go close, they will sit on the net and take what they like through it. Generally they can calculate with mathematical precision the force with which it is necessary for them to strike a distended net, so as to go with their bodies close to the trees; but several times we have found, and especially when the net is tightened with rain, that they have so miscalculated as to be sent back stunned, if not killed, from the blow of the net. Net 1 inch or more in the mesh, is of no use for keeping out many of the smaller birds.

We were obliged to "Lex" for what he states at page 42. The law against poisoning seed constitutes one of our difficulties, and, like many laws, might have a coach and four driven through it in defiance of informers; but it is always a serious affair to break a law, and it is more serious still to have anything to do with poisons if it can be avoided. Notwithstanding all this, poisons, or at least barytes, or plaster of Paris, will no doubt be used to lessen the number of rats and mice; but even for gardening-purposes we should much rather use something to keep such vermin and birds from seeds than anything that would kill them if they partook of it. Why, according to the law, we presume, if we used arsenic, or phosphorus, or nuxvomica, &c., on bread or meat, and put it in the holes and runs of rats, we are liable to a ten-pound penalty. Would it be the same if we used barytes, or plaster of Paris, nicely mixed up with ground suet, oatmeal, &c.? because to a rat, a mouse, a bird, even a tomtit, we suspect the plaster of Paris would be almost as fatal as arsenic, though they would require to take it in larger quantities, and we do not think the latter is yet classed in the category of poisons.

But, without joking, we think it is very much the same as O'Connell driving a coach and six through an Act of Parliament, this law forbidding the poisoning of anything that can be exposed, and allowing to agriculturists—and gardeners too, we presume—the poisoning of seeds that are just placed under the surface of the ground—that is, sown or pretended to be sown. We recollect in making some remarks on that very useful book, useful for what it contains and the more so for its cheapness—"The Science and Practice of Gardening," rather

insisting on darkness aiding germination, such darkness as a covering of earth gives; but then, as many things if otherwise favourably situated would germinate without being buried at all under an earth cover to promote comparative darkness, what would become of the law if we sowed our seed, well poisoned, on the surface, more especially if we could summon into court the authority of one of our conductors, that darkness, and therefore covering, was not essential to germination?

It will be seen that we are alluding to this matter in a kindly spirit, as one reason why we feared to use red lead with our sown Peas was the dread that the birds who eat them, and especially the pheasants, might be injured; and we hope that some correspondent of more experience will yet help us in this matter, as what is wanted is something to repel rather than to destroy; for if the red lead encrusted on Peas would kill the pheasants, we would be as unwilling to use it as we would be to use a net of a mesh sufficient to let their head through and hang them in the process of trying to get it back again. We are sure many beside ourselves will be thankful to "Lex" for his sound information, as we country folk may very easily and somewhat innocently become entangled in the meshes of the law, from which we should all try to keep clear, as, even in a good cause and a heavy loss, the first loss is often better than a later success when law has been appealed to.

Of course, we are perfectly well aware that if a gentleman chooses to turn his pleasure grounds and his kitchen garden into a game preserve, and consequently into a preserve for much more than game, he has a perfect right to do so; and if all the produce of the garden is thus consumed, the gardener has no right to grumble so long as the employer is satisfied; but he has a right to complain when such a state of things exists that no nest of birds of any sort must be touched, no sound of the gun must ever be heard within his bounds, and yet orders should be given for produce as if none of the natural eaters-up of that produce were present to render so far nugatory his labours. Where the shoe pinches with many of us blue aprons is simply here—that whilst all these devourers are to be allowed to take what they like without let or hindrance, the gardener is expected to supply a large establishment as if he had nothing but the routine of the seasons to oppose him. We have received so many thanks for mere fair statements, that it is no credit to us to state a self-evident truth—that from the same piece of ground you cannot obtain the same results for an employer's table with the free admission of game and their attendant vermin as without it, for wherever game is thus encouraged in the garden premises you will also encourage all sorts of birds, mice, rats, &c.

Gave a good watering to some late Cherries, as the Florence, now swelling, and securely netted from the birds. To give an idea of their rapacity we may mention that on some young trees of May Duke not netted the fruit was all taken almost before it began to take its second swelling—in fact, when quite hard and colourless. Nothing relieves us from the constant next-to-unavailing contest but a good continuous rain, which, in the shape of slugs, worms, &c., brings other food near to them. We must here mention that we have never been less troubled with these marauders, showing, as mentioned last week, that in moderation birds are friends rather than enemies; but wherever pleasure gardens abut on the fruit and kitchen gardens, birds will be sure to be too numerous if left to themselves. We felt it rather annoying this spring to walk round some of the villages and find the Pear and Plum trees one mass of healthy bloom, after seeing the ground at home covered with the remains of bloom-buds, and hardly a blossom left, though if not interfered with they, too, would have been a mass of bloom.

In our case Plums and Pears, and even Apricots and Peaches, suffered chiefly from birds. By the time that Apple and Cherry trees began to swell their buds the birds must have been able to attack something else, for they interfered less with them. The clearing off the fruit-buds has made our dwarf standard Pear pyramids, &c., grow with greater vigour, and during the week an operation has been begun which we would have wished to have done sooner—namely, shortening back most of the shoots within a few inches of their base, leaving a few merely shortened at the point to continue the growth, and prevent the smaller buds being tempted to lengthen into wood-buds. For several years we have had little trouble with these dwarf trees, as the heavy crops prevented a too vigorous growth, but the birds in pretty well demolishing the fruit-buds gave too great a stimulus to mere growth, which must thus be counteracted to prepare for the fruit-buds, which we hope may have

KALOSANTHES COCCINEA CULTURE IN A WINDOW (*Amateur Gardener*).—The best time to propagate is the present. Select shoots without flowers, cut them below a joint, remove the leaves for a couple of inches, or half the length of the cuttings, and insert these down to the leaves in small pots filled with a compost of peat, loam, and sand in equal parts. They will root freely in a window, only do not over-water. The only danger to be guarded against in wintering them is having the soil wet. They should be kept as dry as possible without allowing the shoots to shrivel, and must be secure from frost. They do well in a compost of turfy loam, peat, and leaf mould in equal parts, with the addition of one part of small crocks and a like quantity of sand to keep the soil porous. Your plant will not require potting this year if the soil is sweet, but if this has sunk down in the pot you may repot now. Cut the plant back after blooming, and when it has made shoots 2 or 3 inches long repot.

DESTROYING EARWIGS (*G. C.*).—If you procure a number of earwig-traps, which may be had of any nurseryman, and elevate them on sticks, you will soon considerably thin the earwigs; and if you place sticks wherever you can, and hang on them any old cloth, the earwigs will congregate there, and may be destroyed in great numbers. You may still further thin their ranks by adopting the means described at page 34.

ORANGE TREES FLOWERING (*Amateur*).—Your trees now showing flower will be strengthened considerably by removing the blossoms, but retaining the shoots, as the season is now advanced. We should advise the syringing to be done in the evening. It is not uncommon for the Peach to bloom on the wood of the current year, but we do not remember seeing it so early in the season. Our correspondent has "a Peach bush in a small orchard-house with fruit on it more than half grown, and it has produced two blossoms on a shoot of the present year."

FUCHSIAS INFESTED WITH THRIPS AND RED SPIDER (*Old Cumnock*).—The leaves sent are infested with thrips and red spider, caused by the plants having too little moisture and too high a temperature. Your

best plan of destroying them will be to syringe the plants with a solution of 2 ozs. of soft-soap to the gallon of water. Take them out of the house, lay the pots on their sides, syringe that side of the plant, and, turning them, thoroughly wet every part. Repeating this washing several times will clear the plants. The leaves which have been severely attacked will, however, fall off.

GENOTHERA (*W. H. B.*).—Your plant was probably *Genothera grandiflora*, which was at one time rare, but now plentiful enough in *E. Lanarthiana*, which is the same, and supposed to be new, though introduced so long ago as 1778. It can be obtained of most nurserymen. If a dwarf-growing plant is required it might be *E. macrocarpa* (*missouriensis*). It can be had of all nurserymen.

NAMES OF FRUITS (*J. F.*).—No. 1, Böttner's Black Heart; 2, *Comone*; 3, Black Tartarian. (*G. B.*).—Purple-fruited Egg-Plant, *Solanum melongena fructu oblongo violaceo*.

NAMES OF PLANTS (*Mrs. Grand*).—We do not recognize the leaves, send it again when in flower. (*T. S.*).—1, *Anagallis arvensis*; 2, *Polygala vulgaris*; 3, *Erica tetralix*; 4, *Hypericum humifusum*; 5, *Veronica beccabunga*; 6, *Nasturtium palustre*. (*A. B.*).—1, *Symphoricarpos racemosa*; 2, *Kalmia japonica*; 3, *Santolina chamaecyparissus*; 4, *Stipa pennata*; 5, *Saxifraga ajacifolia*. (*Grassmere*).—A *Kalmia*, but without the leaves we cannot say what species. (*E. J.*).—1 and 2, the fronds are too young; 3, *Sedum reflexum*. (*W. W.*).—1, *Chelidonium majus*; 2, *Geranium striatum*; 3, *Lycopodium formosum*; 4, *Anomatheca cruenta*. (*Brook*).—1, *Pteris longifolia*; 2, *Adiantum formosum*; 4, *A. tenerum*; 5, *Pteris cretica albo-lineata*; 6, 7, 8, *Salvinella*, but the specimens insufficient. (*R. T. Wheeler*).—*Tetragonolobus purpureus*. (*H. L. Leeds*).—The subterranean Fungi forwarded were specimens of *Melanogaster ambigua*, usually found under Fir trees. Can you send us other specimens, or give full particulars? (*E. S. C.*).—Your Fern was named in our Number published July 10th. It was *Lastrea dilatata*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending July 21st.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 15	30.126	30.080	82	53	68	63½	E.	.00	Very hazy; hot and dry; very fine.
Mon. . . 16	30.085	30.084	78	52	68½	63	E.	.00	Slight haze; fine; very fine.
Tues. . 17	30.032	29.968	74	41	66	68	E.	.00	Overcast; fine; overcast; rather cold at night.
Wed. . 18	30.080	29.924	76	42	66	66	E.	.00	Cool; very fine throughout.
Thurs. 19	29.886	29.868	75	37	66	66	N.E.	.00	Clear; very fine; rather cold at night.
Fri. . . 20	30.016	30.004	78	40	64½	62	E.	.00	Partially overcast; very fine throughout; cool.
Sat. . . 21	30.100	30.080	78	46	64	62	E.	.00	Very fine; light clouds; overcast.
Mean	30.046	29.996	76.57	44.28	66.48	62.78	..	0.00	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

RAILWAY CHARGES—WOODBRIDGE POULTRY SHOW.

It is many weeks since the last notice on this subject appeared in "our Journal," at least the last notice from my pen. I can, however, assure all those who are interested in the matter, that it has been by no means a "dead letter." Little did I dream, as T. Hood says, "that I should ever live to see what is before me;" but I can safely say, and it may be taken in any sense "our" readers please, that I have often wished of late there were no such things as "railway charges!" What halcyon days! No poultry shows then without entries! No calculations necessary then to discover whether, after obtaining the honours of a prize, the pocket of the exhibitor will really be emptier than before the show! By-the-by, that has been my condition at Woodbridge, the Show held six weeks ago and the prize not paid yet. Although I have written to the Secretaries, no notice has been taken; *en passant*, let me say that this plan is the best to ruin the prospects of any show.

Since the last notice on the subject of railway charges, I have dispatched the "independent memorial." The signatures were nearly 120. The memorial has been acknowledged by most of the railways, and some of the replies do not look unfavourable. I have carried out the suggestion which Mr. Warren, the Secretary of the Hampshire Ornithological Society, threw out, "that the officials of poultry shows might aid in the matter." I had, therefore, a suitable form of memorial lithographed, and dispatched this form to nearly all the poultry shows I could make out. The result has been the formation of a memorial, which, as it appears to me, is one far more important than either that of the Poultry Club or the independent exhibitors, and more likely to influence the railway companies; but of this memorial more anon. One of the earliest replies was from grand-maternal Birmingham; it was accompanied by a note from the Secretary, stating that it was the wish of the Council that

their's should go as a separate memorial. I most willingly agreed to this, and Mr. Lythall kindly took charge of this memorial, and forwarded it to the various companies. Meanwhile other replies came in, and several of them were so well signed that I had the signatures lithographed and forwarded as separate memorials. They are as follows:—Chelmsford and Essex.—This memorial was kindly taken in hand by Mr. George Manning, of Chapel House, Springfield. Hampshire Ornithological, by Mr. P. Warren, the Secretary. Haslingden, by Mr. Shaw, the Secretary. Halifax and Calder Vale, by Mr. Irvine, the Secretary.

The general official memorial will be sent off in a few days, I hope. This Mr. E. Pigeon, of Lympstone, near Exeter, has kindly undertaken. It contains 253 signatures, and represents forty-nine different shows—viz., *Birmingham, Manchester, the Yorkshire Society, Bath and West of England, Eastern Counties, *Chelmsford and Essex, Sheffield, Roshdale, Hull, Worcester, *Hampshire Ornithological, Whitehaven, Plymouth, Aberdeen, Wakefield, South of England, Hastings and St. Leonards, Dewsbury, Kelso, Kendal, Leicester and Waltham, Cirencester, Brentwood, Lord Tredegar's, Frome, Scarborough and East Riding, Ipswich, Hants and Berks, Ripon and Clare, Suffolk, Nantwich, Epworth, Bude Haven, Chippenham, Congridge, Calne, Market Drayton, Kingswood, Ulverstone, Loughborough, Pudsey, *Haslingden, Atherton, Long Sutton and South Lincolnshire, Essex Agricultural, Cleveland Agricultural, *Halifax and Calder Vale, and New-bigin.

I do not think it can be disputed that an evil which is so widely felt that the officials of shows throughout the length and breadth of the land unite in testifying to its magnitude, is likely to remain utterly unaltered. The representatives of one show, and one only, have been found to praise railway arrangements; that show is the Walsall. I cannot but feel that the Walsall Committee have looked at the matter with different eyes than those of distant exhibitors.

There remains further to bring the subject before the meet-

* Those marked thus * had only the signature of the Secretary, as the other names appeared in the separate memorials.

ing of managers in London, that some united plan may be adopted. Will some of the Poultry Club officials undertake this? If they will, I dare say it could be arranged for copies of these memorials to be presented at the same time by them. I will in the course of a fortnight send you the statement of the expenses hitherto incurred.—**JOSEPH HINTON** (Y. B. A. Z.), *Hinton, near Bath*.

CIRENCESTER POULTRY EXHIBITION.

THIS Show was held on Wednesday last in a spacious marquee adjoining the new Corn Exchange, where a very successful horticultural exhibition was being carried on. Thanks to the excellent management and unwearying exertions of Mr. Wilfred Bowly, the indefatigable Secretary, the Poultry Show was a most decided success. 260 pens were entered, and nearly every part of England and Ireland also contributed.

The *Spaniels* were not very well represented. Mr. Heath, of Calne, carried off the first prize with only moderate birds. *Dorkings* were fully up to the mark in numbers, but the condition was far from good, they showed unmistakable marks of early moulting; A local exhibitor was first, Miss Milward and Mr. Fowler close following. In *Buff Cochins* the well-known names of Boyle, of Dublin, and Cattell, of Birmingham were first and second. In *Cochins* of any other variety Mr. Fowler, of Aylesbury, obtained the first prize with a very fine pen of birds, Mr. Stephens, of Walsall, being second; the hen in his pen was too dark. This was a good class. The cream of the Show was the *Drum* class. These birds have been gradually and deservedly rising in favour. Mr. Fowler was first in the class for old birds, and first for single cocks. Mr. Boyle, of Dublin, with his well-known pen being second, and Mr. Zurhorst, of Dublin, and Mr. Hinton, of Bath, being close behind him. Messrs. Pares and Pigeon were the winners in light Brahmae. The *Game* classes afforded easy winning to the Rev. G. S. Cruwys. The *Hamburghs* were tolerably good. Mr. Wood, of Kendal, and Mr. Boyle, of Dublin, were amongst the successful competitors. *Polands* were not shown in numbers, but were good. In the *Any variety* class the National Poultry Company showed conspicuously. In *La Flèche* were excellent. *Bantams* in the *Game* classes were also excellent; Mr. Manning winning with a beautiful pen, and Mr. Fowler winning in the single cock class.

The *Ducks* were a capital show. In Aylesburys Mr. Fowler was triumphant. *Rouens* were excellent. Mr. Hulbert, of Perrott's Brook, was first with some good young birds, and in the general class the competition was very keen. Altogether the Show was well managed, and we hope it augurs well for the future prosperity of the Cirencester Poultry Exhibition.

SPANISH.—First, A. Heath, Calne. Second, T. Ace, Swansea. Commended, J. Jenner, Lower, Sussex.

DORKINGS.—First, J. Lane, jun., Cirencester. Second, Miss J. Milward, Newton St. Loe, Bristol. Highly Commended, J. K. Fowler, Perrott Farm, Aylesbury. Commended, J. Rolt, jun., Cirencester.

COCHIN-CHINA (Cinnamon and Buff).—First, R. W. Boyle, Bray, Co. Wicklow, Ireland. Second, J. Cattell, Bristol Road, Birmingham. Highly Commended, Miss J. Milward.

COCHIN-CHINA (Any other variety).—First, J. K. Fowler. Second, J. Stephens, Walsall. Highly Commended, C. Bulpin, Riverside, Bridgewater, Somerset. Commended, F. W. Zurhorst, Donnybrook, Dublin; J. Stephens.

BRAHMA POOTRA (Dark).—First, J. K. Fowler. Second, R. W. Boyle. Highly Commended, J. Hinton, Hinton, near Bath; E. Pigeon, Lymington, Exeter; H. Yardley, Market Hall, Birmingham; J. K. Fowler. Commended, C. Daubeny, Combe Down, Bath.

BRAHMA POOTRA (Light).—First, J. Pares, Guildford. Second, E. Pigeon. Commended, Mrs. Dewdeswell, Lechlade.

GAME (Black-breasted and other Reds).—First and Second, Rev. G. S. Cruwys, Crayke Moorhead, Tiverton. Highly Commended, J. Mason, St. Clements, Worcester; G. Hanks, Malmesbury. Commended, S. Dupe, Evercreech, Bath.

GAME (Any other variety).—First, S. Dupe. Second, Rev. G. S. Cruwys. Highly Commended, Rev. G. S. Cruwys. Commended, Rev. W. T. Mellor, Colwick Rectory, Nottingham.

HAMBURGH (Gold or Silver-pencilled).—First, A. K. Wood, Burnside, Randal, Westmoreland. Second, R. W. Boyle.

HAMBURGH (Gold or Silver-spangled).—First, A. K. Wood. Second, Mrs. Pettat, Ashe Rectory, Overton, Hants. Highly Commended, D. Ruck, Cirencester; Mrs. Dawson, Cirencester. Commended, J. S. Magge, Tetbury; R. Hurman, Cowley, Oxford.

POLANDS.—First, T. P. Edwards, Lyndhurst, Hants. Second, Mrs. Pettat. Highly Commended, Mrs. Blay, Gregory's Bank, Worcester. Commended, J. Hinton.

ANY OTHER VARIETY.—First, National Poultry Company, Bromley, Kent (La Flèche). Second, J. Hinton (Malays). Highly Commended, National Poultry Company (Houdans); T. W. Zurhorst (Sultans); J. Burrows, Sidington (Silkies); R. H. Nicholas, Malpas, Newport, Monmouth (Black Hamburghs); E. Polhill, Milford, Salisbury (Indian Game). Commended, E. Pigeon (La Flèche); H. Howell, Driffield.

BANTAMS (Game).—First, G. Manning, Springfield, Essex. Second, T. C. Phair, Southsea, Portsmouth. Highly Commended, J. K. Fowler; E. Tate, Green Road, Leeds; R. T. Toder, Little Carlton, Newark; J. Stephens. Commended, Mrs. Pettat.

BANTAMS (Any other variety).—First and Second, Rev. G. S. Cruwys. Highly Commended, Mrs. H. Freke, Highworth; J. C. Harrison, Beverley Road, Hull; E. Pigeon; Mrs. Pettat.

DUCKS (Aylesbury).—First and Second, J. K. Fowler. Highly Commended, National Poultry Company. Commended, J. Skinner, Newport, Monmouthshire.

DUCKS (Rouen).—First, G. N. Hulbert, Perrott's Brook. Second, J. K. Fowler. Highly Commended, G. N. Hulbert; G. Hanks.

DUCKS (Any other variety).—First, T. B. Jessop. Second, T. C. Harrison. Highly Commended, J. K. Fowler. Commended, Miss J. Milward; F. G. Phillips, The Palace, Chippenham.

SMILING CRASS (Any variety).—First, J. Skinner (Silver-spangled Hamburghs). Second, W. Boyle (Buff Cochins). Third, G. Hanks (Grey Dorkings). Highly Commended, R. H. Nicholas (Black Hamburghs). Commended, T. Rogers, Walsall (Gold-spangled Hamburghs).

SWEEPSTAKES FOR SINGLE COCKS.

GAME.—First, S. Dupe. Second, Rev. G. S. Cruwys. Commended, T. Porter, Baunton, Cirencester.

SPANISH.—Prize, J. Stephens.

DORKING.—Prize, W. R. Peacey, Chalworth, Tetbury.

COCHIN-CHINA.—Prize, J. Stephens.

BRAHMA POOTRA.—First, J. K. Fowler. Second, F. W. Zurhorst. Highly Commended, J. Hinton; E. Pigeon.

HAMBURGH.—Prize, A. K. Wood.

POLAND.—Prize, J. Hinton.

BANTAM (Game).—Prize, J. K. Fowler. Highly Commended, J. Skinner.

The Judge was Mr. G. S. Sainsbury, of Devizes.

JOHNSTONE AGRICULTURAL AND POULTRY EXHIBITION.—JULY 18.

OWING to the visitation of rinderpest all agricultural shows of the present season have suffered exceedingly, and not a few have this year been much assisted by the poultry department. The Show was remarkably well attended, and the truly indefatigable Secretary, Mr. Reid, displayed, as usual, his willing attention to every inquirer.

The *Spaniels* was a good class, and the three principal pens of this breed were very close rivals. The *Hamburgh* classes were far better than we anticipated, as the late period of the season especially affects these varieties. The class for Any other variety of fowls was capital; it is rarely that so good a class of *Polands* is found at any show; the *White-crested* were the victors.

The *Rouen* and *Aylesbury Ducks* were good, but the competition was very limited. The same may be said respecting the *Turkeys*.

SPANISH.—First, J. Sharp, Johnstone. Second, G. McMerriok, Houston. Third, R. Taylor, Kilbarahan. Highly Commended, G. Nelson, Miliken Park.

SCOTCH GAUYS.—First, A. Grant, Kilbarahan. Second, J. Wylie, Kilbarahan. Third, M. Blair, Johnstone.

COCHIN-CHINA (Any variety).—First, W. Blackwood, Johnstone. Second, J. Melkjohn, Thorn. Third, W. R. Menzies, Pollockshaws.

DORKINGS.—First and Second, J. Burns, Craighead.

HAMBURGH (Golden-spangled).—First, W. Ritchie, Busby. Second, W. R. Menzies. Third, G. McMurich.

HAMBURGH (Silver-spangled).—First and Second, W. R. Menzies.

HAMBURGH (Golden-pencilled).—First and Second, W. R. Menzies.

HAMBURGH (Silver-pencilled).—First, W. R. Menzies. Second, J. Sharp.

GAME.—First, W. A. Menzies. Second, J. Sharp.

BANTAMS (Any variety).—First, A. Grant. Second, J. Sharp. Third, W. Wylie.

ANY OTHER DISTINCT VARIETY NOT NAMED.—First and Second, W. R. Menzies. Third, W. Reid, Johnstone.

DUCKS (Aylesbury).—First, J. Burns. Second, W. McKeggre, Bowfield.

DUCKS (Rouen).—First, A. Grant. Second, J. Sharp.

TURKEYS (Any colour).—First, J. Burns. Second, W. Blackwood.

Hugh Donald, Esq., Johnstone, and William Hare, Esq., Port Glasgow, officiated as Judges.

BUDE HAVEN POULTRY SHOW.

THIS took place on Thursday the 19th inst., when the following prizes were awarded:—

DORKINGS (Coloured).—First and Second, Rev. A. C. Thyane. Third and Fourth, Rev. G. C. Guille. **Cock**.—First, J. Banbury. Second, Rev. G. C. Guille. **Chickens**.—First, Rev. G. C. Guille. Second, Rev. A. C. Thyane.

DORKINGS (White).—First, J. H. Reed. Second, W. Pickard. **SPANISH**.—First, — Sluman. Second, J. H. Reed. Third, W. Leach.

CHICKENS.—First, G. Sleeman. Second, J. H. Reed.

MINORCAS.—Prize, T. Martyn.

GAME.—First, H. M. Bazely. Second, W. H. Coham. Third, A. West.

CHICKENS.—First, H. M. Bazely. Second, S. T. Pickard.

COCHIN-CHINA.—First and Second, F. Phillips.

BRAHMAS.—First, H. Daroh. Second, E. Hoskin.

MALAYS.—First and Second, H. Daroh.

CORNISH.—First, D. Maynard. Second, J. Galeworthy.

HAMBURGH (Golden-pencilled).—First and Second, J. F. Delmar.

CHICKENS.—Prize, Rev. S. N. Kingston.

HAMBURGH (Golden-spangled).—First and Second, J. F. Delmar.

CHICKENS.—First, S. L. Lucas. Second, T. Ashton.

HAMBURGH (Silver-pencilled).—First and Second, J. Walter. **CHICKENS**.—Prize S. N. Kingston.

HAMBURGH (Silver-spangled).—First and Second, S. L. Lucas. **CHICKENS**.—First, S. L. Lucas. Second, T. Ashton.

POLANDS (Golden-spangled).—First and Second, F. Gloyne.

POLANDS.—First, W. L. Trewin. Second, Miss Rowe.

BARNDORP.—First, H. Francis. Second, E. Avery. Third, J. Moore.

Fourth, T. Mill. Fifth, H. Francis.

BANTAMS (Golden-faced).—Prize, W. H. Coham.

BANTAMS (White).—Prize, L. Fry.

BANTAMS (Black, &c.).—First, H. M. Basley. Second, R. Higham.
GUINEA FOWLS.—First, S. L. Lucas. Second, T. Phillippe.
DUCKS (Aylesbury).—First, J. Bines. Second, W. Bines. *Ducklings*.—First, J. Bines. Second, J. Davey.
DUCK (Common).—First, J. Cotton. Second, J. Piper. Third, S. T. Pinkard. Fourth, Mrs. E. S. Trickey. *Ducklings*.—First and Second, F. Glynne. Third, S. Brown.
DUCKS (Rouen).—Prize, Rev. G. C. Guille.
GESE.—First, J. Woodley. Second, Rev. G. C. Guille.
TURKEYS.—First, Rev. G. C. Guille. Second, Miss Gorie.
PIGEONS (Common).—First and Second, J. Cotton. Third, W. Brock. *Carriers*.—Prize, Rev. J. R. Whyte. *Pouters*.—Prize, J. M. Braund. *Fantails*.—Prize, J. M. Braund. *Trumpeters*.—Prize, J. M. Braund. *Tumbler*.—Prize, Mrs. Basley. *Nuns*.—Prize, Rev. J. R. Whyte.
RABBITS (Longest Ear).—Prize, Master Veale. Common.—First, Master J. Edgecombe. Second, Master R. Francis.
EXTRA PRIZES (Any pure breed).—Prize, T. Wood. *Single Cock*.—First, A. West. Second, H. Darch. Third, J. F. Delmar.
EXTRA PRIZES given by William Maskell, Esq.—*Cock and two Hens*.—First, J. Davey. Second, J. Stanbury. *Ducks*.—Prize, J. Davey.

PEPPER EXHIBITION OF POULTRY AND PIGEONS.—JULY 17TH.

THIS Show though limited as to the number of the entries, was one of a very superior kind as regarded the greater proportion of the birds exhibited. The weather proved as satisfactory as any well-wisher of the Society could desire, and the ground on which the Show was held was well chosen. The pens were the well-known ones of Mr. Cooke, of Colchester, and every specimen was placed in a single row, so that the arrangement for the exhibition of the birds was all that could be desired. The members of the acting Committee were entire novices at the management of a poultry exhibition, and for this simple reason they deserve the greater credit for bringing everything to so satisfactory a conclusion. The weather, too, was fortunately most propitious, and as a poultry show was a novelty at Epping, the attendance was far beyond what was generally anticipated. Every pen was placed under cover, and protection was also provided for all visitors had the weather necessitated it, but happily, as just stated, the day was extremely fine.

The Grey *Dorking* class was one of the best filled in the whole Show, and Mr. Lingwood's triumph was not without severe competition. A pen of most excellent birds in this class were thrown out altogether by one hen proving to be ruptured. It should be always borne in mind that ruptured hens are as inadmissible for competition for prizes as they are utterly useless for stock purposes. The class for White *Dorkings* was at a very low ebb as to entries, but the prize birds were excellent. In the *Spanish* class only one pen was exhibited, and to it a second prize was awarded. The birds had, no doubt, some time back been of great merit, but age had laid a heavy hand upon them; the cock was long past his best, and the coarse corrugations of the face rendered him almost sightless. In *Game* fowls, as might readily be anticipated, Mr. Mathews, of Stowmarket, proved the lion of the day. Most of the birds in this gentleman's collection were very good indeed, but it is simply impossible just at the present period of the year to exhibit them in the height of condition on which, in *Game* fowls particularly, so much depends. In *Cochins*, the Buffs exhibited by Mr. Lingwood, of Needham Market, and the White ones belonging to Mr. Zurhorst, of Donnybrook, Dublin, were most praiseworthy. Mr. Pickles again stood first with his excellent pen of Dark *Brahmas*. In *Hamburghs*, the Show was confined to but few, but the excellent pens of these beautiful varieties, sent by Mr. Wood, of Kendal, proved most attractive, as *Hamburgh* fowls seem but little known in Essex. The *Game Bantam* classes were a failure as to excellence, although a good show was anticipated. Among the Bantams were shown a trio of as superior *Booted Bantams* as we have seen for a long series of years. In the Variety class *La Flèche* and *Malays* were the prize-winners, both being pens of first-rate birds.

A single pen of *Geese* and of *Turkeys* were all that were entered, both being very good indeed. The *Geese* belonged to Mrs. Seamons, of Aylesbury, which insured something decidedly superior; but it was in *Aylesbury Ducks* that this lady far out-distanced all competitors, surprising the many visitors who for the first time witnessed the products of her yard, by the good quality and size of these. The *Rouens* were so bad that every prize was withheld, the truth being rather, that not a single *Rouen Duck* was exhibited, and those *Ducks* that were sent might better have remained at their homesteads.

Although four different classes were allotted to single cocks of as many varieties, only one Buff *Cochin* was entered; he was an excellent bird, but, of course, had nothing to compete against, although journeying from the yard of Mr. Zurhorst, of Donnybrook, Dublin, to look out for a rival. As a "sweepstakes" bird under such rule, if rigidly enforced, can only win by any possibility his own entry-money back again, the Judges suggested an extra prize from the general funds, which will, no doubt, be allowed by the Committee, and the bird itself well deserved it.

No entry was made in any of the classes devoted to *Pheasants*; and the small collection of *Pigeons*, with the exception of two or three pens, was not equal to what might have been hoped for in an exhibition held within seventeen miles of London. The *Siberian Ice Pigeons* are well shown, and very good specimens. As extra stock, Mrs.

Rothwell, of Epping, exhibited two capital pens of Japanese *Bantams*, a light-coloured pen and a dark one, of both of which the Judges spoke in highly commendatory terms.

Some very good *Canaries* were shown, but few in numbers. As a kind of tail-piece to the Show, Mr. Edward Milman, of Theydon Grove, sent a recently-caught *Barn Owl*. He seemed an object of great interest to the more juvenile visitors, but his violent efforts to escape proved beyond question that his comforts were but little increased by their uproarious plaudits.

The Show was concluded satisfactorily to all parties, and no doubt will become an annual institution.

DORKINGS (Coloured).—First, H. Lingwood, Barking, Needham Market, Suffolk. Second, F. Farlett, St. John's Road, Chelmsford. *Chickens*.—Extra Prize, W. H. Walker, Shenfield, Brentwood.

DORKINGS (White or Silver-Grey).—First, Miss Arkwright, Mark Hall, Harlow. Second, W. H. Walker.

SPANISH (Black).—First withheld. Second, R. B. Postans, Brentwood. **GAME** (Black-breasted and other Reds).—First and Second, S. Mathew, Chilton House, Stowmarket. Highly Commended, J. Jelen, Eitham, Kent. **GAME** (Any other colour).—First and Second, S. Mathew (Duckwing Game, Fies.)

COCHIN-CHINA (Buff).—First, H. Lingwood. Second, J. Thompson, Writtle.

COCHIN-CHINA (Any other colour).—First, F. W. Zurhorst, Donnybrook, Dublin (White). Second, Rev. M. R. Barnard, Margaretting Vicarage, Ingatstone (White).

BRAHMAS (Dark or Light).—First, J. H. Pickles. Second, E. Sheerman, Chelmsford (Brahma Foots). Highly Commended, Mrs. M. Seamons, Hartwell, Aylesbury, Bucks.

HAMBURGH (Silver-pencilled).—First, A. K. Wood, Burnside, Kendal, Westmorland. Second, T. J. Saltmarsh, Mildmay Road, Chelmsford.

HAMBURGH (Gold-pencilled).—First, C. Havers, The Beacons, Ingatstone. Second, A. K. Wood.

HAMBURGH (Gold-spangled).—Prize, A. K. Wood.

HAMBURGH (Silver-spangled).—Prize, A. K. Wood.

GAME BANTAMS (Black-breasted and other Reds).—First, R. B. Postans. Second, Rev. G. Rayner, Kelvedon Hatch Rectory, near Brentwood.

GAME BANTAMS (Any other colour).—Prize, G. Manning, Springfield (Duckwing).

BANTAMS (Black or White).—Prize, J. R. Jessop, Beverley Road, Hull.

BANTAMS (Any other variety).—Prize, G. Griggs, Oatlands, near Romford (Cuckoo).

ANY OTHER DISTINCT VARIETY.—First, F. W. Zurhorst (La Flèche). Second, J. Hinton, Hinton, near Bath (Malay).

TURKEYS (Any colour).—Prize, W. Wright, Fulbourn, Cambridgehire.

GESE (Any colour).—Prize, Mrs. M. Seamons, Hartwell, Aylesbury, Bucks.

DUCKS (White).—First and Second, Mrs. M. Seamons. Highly Commended, W. Tippler, Roxwell; E. W. Green, Bury St. Edmunds.

COCHIN-CHINA COCK (Any colour).—Prize and Extra Prize, F. W. Zurhorst (Buff).

PIGEONS.—*Carriers* (Any colour).—First and Second, E. Dames, Chigwell (Black and Light). *Any other variety*.—First and Second, F. Broemel, Lewisham (Siberian Ice and Russian Porcelain Pigeons).

CANARIES.—*Cock*.—First, G. Hall, Romford. Second, R. Counter, Romford. *Hen*.—First, R. Counter. Second, G. Hall. *Males*.—Prize, R. Counter.

RABBITS (Lop-eared).—Buck. First, G. Hall. Second, E. Lawrence, South Weald, Brentwood. Commended, E. Lawrence. Doe. First, E. B. Barnard, Fair Green, Sawbridgeworth. Second, E. Lawrence. Highly Commended, Rev. H. Foster, Theydon Garnon Rectory.

Mr. Tegetmeier, of Muswell Hill, London, and Mr. Hewitt, of Sparkbrook, Birmingham, officiated as the Arbitrators.

HAMBURGHS WANDERING.

SEEING that "WILTSHIRE RECTOR" recommends *Hamburghs* to an inquiring friend, I should like to know whether he finds in them the one fault which I do—namely, a strong propensity to lay away from home, in which case, as they do not sit, undiscovered eggs accumulate to an undesirable extent. I once found fifty-six, all laid by one hen. I have, however, a good deal of wild shrubbery adjoining the poultry-house.—A WILTSHIRE FARMER.

[I would observe that the tendency to lay away from home which some fowls manifest, among them some *Hamburghs*, which "A WILTSHIRE FARMER" rightly terms their "one fault," may be much checked by making the birds very tame. This may be easily done by feeding the fowls near to the house, going among them with dinner-plate scrapings, and other niceties. If you enter some yards the fowls fly from you like wild birds; in others, where they are tame, they walk fearlessly around you as domesticated birds ought. Again, if fowls are allowed to roost anywhere, it is no wonder if they lay anywhere. I think the tendency to lay away from home exists in all those varieties of fowls which love to wander; in fact, they are more like wild birds. I have in former years been much troubled with *Game* hens laying in hedges, but they were invariably those which I had not bred, and were always to the last shy of company.

I think that "A WILTSHIRE FARMER" has hit upon the chief cause of his trouble, when he says, "I have, however, a good deal of wild shrubbery adjoining the poultry-house." His satis-

faction must be, that if he loses some eggs it is only some out of very many laid, and the egg-collecting boy must be told to keep his eyes about him. A breeder of Hamburgs of many years duration tells me that only a few of her's had this fault, one hen out of several, which it was best to kill. I will add that I always recommend Dorkings as the best birds for the farmer, though Hamburgs are charming pets for amateurs who live in the country.—WILTSHIRE RECTOR.]

EXTRACTING THE GAPES' WORM.

I HAVE seen the remedy recommended for gapes by "G. W. Gardy," in THE JOURNAL OF HORTICULTURE for June 12th. How is it possible to introduce the gut into the windpipe? It seems to be the throat of the chicken it, or a feather, goes into, and how can the difference be known and made? I have been told by a medical man that it is very difficult to introduce anything into the windpipe.—F. P.

[The medical man is right, it is difficult to introduce anything into the windpipe, but by no means impossible or injurious. We are always cautious how we attempt it with anything as hard as gut, but we work freely with a feather, as danger is impossible. If it have the effect of a crumb going the wrong way so much the better, the coughing will get rid of some of the worms. When the bird breathes, the feather can be introduced. You may not succeed the first or second time, but you will at last. We dip a feather in turpentine.]

THE EGYPTIAN BEE.—PART I.

ITS MANAGEMENT IN EGYPT, AND ITS INTRODUCTION INTO GERMANY.

"In conclusion the author enters upon the question of the acclimatisation of new forms of bees. For Europe he thinks the most valuable form would be the Egyptian, partly on account of their beauty, and partly because of their unwillingness to use their stings, which appears to be common to all African bees, and is also one of the recommendations of the Italian bee."—*Annals and Magazine of Natural History* for May, 1868.

SOME time before the appearance of Mr. Dallas's epitomised translation of Dr. Gerstaecker's paper on "The Geographical Distribution and Varieties of the Honey Bee," from which the above extract is taken, I had become aware of the value attributed by the learned German to the Egyptian race of honey bees (*Apis fasciata*), and had taken steps for obtaining it by sending an order to a distinguished mercantile firm in that country, to whom I had obtained an introduction, for three colonies of bees, accompanying my order with full instructions for packing and transporting them to England. This order was, however, never executed, for reasons which I could not at the time comprehend, but which the following narrative explains clearly enough, and the whole affair remained in abeyance until last year, when I learned that the Berlin Acclimatisation Society had taken the matter in hand, with what success Herr Vogel, the distinguished German apiarist who has acted for the Society, shall relate for himself.—A DEVONSHIRE BEE-KEEPER.

"We believe that Egypt was included in the range of the creation of the bee, since, on account of the obscurity and insufficient knowledge we possess of the ancient history of this country, we can neither prove that our favourite insect spread by degrees voluntarily into it, nor that it was man who introduced the bee into the valley of the Nile.

"The historical fact that the ancient Egyptians were a cultivated people gives us reason enough to suppose that the bee was domesticated in Egypt in the earliest times. Although we do not find it reckoned among the animals that were considered sacred, yet different antiquarians are of opinion that the mythical sacredness of the bee was likewise intimated in the name of Apis, by which name the sacred bull of the Egyptians was called, as the name of the sacred bull is identical with the later Latin denomination of the bee. It would be overhasty to infer from the biblical account that because the old patriarch Jacob amongst other presents also sent honey to "the man" in Egypt, that the bee did not exist in Egypt at that time, and that therefore Jacob wished to make a valuable present of honey to Joseph. According to the opinion of biblical commentators the honey (*D'bach*), mentioned in Gen. lili, 11, was not the honey of bees, but a kind of succedaneum, a thickened grape juice, which was afterwards also taken from Pales-

tine into Egypt, which was poorer in honey. It is still at the present day called Diba.

"The ancient Egyptians used the Nile to obtain rich harvests, and the ancient Egyptian bee-keepers understood also how to use the river for profiting from the plants through their bees by carrying on an extensive wander-bee-keeping on the great river. As Upper Egypt is hotter than Lower Egypt, and the country there is sooner freed from the inundation, the honey-yielding plants also develop themselves earlier. In Lower and Middle Egypt the bee-hives having been previously numbered, were piled in a pyramidal form on boats specially constructed for this purpose, and were taken up the Nile with the wandering bee-house.

"When the chief gathering in Upper Egypt was over, they were shipped a few miles lower down the stream, and a halt was again made so long as the bees found plenty of food. In the beginning of February the stocks arrived in Lower Egypt, where they were again delivered to their owners. The bee-keepers of Upper Egypt who had accompanied them, after their hives had profited by the pasture near the sea, went home again with their heavy stocks up the stream, in April.

"The civilisation of Egypt fading by degrees, and becoming worn-out and effete, ultimately expired under the rule of the fanatical Mahometans. With the vanishing culture, bee-keeping in Egypt, old and extensive as it was, sunk too; at least, modern travellers no longer see anything of wander-bee-keeping on the Nile. A change has taken place in Egypt also in modern times. At present it is only those Arabs (Fellahs) who are settled and carry on agriculture and a few Copts who keep bees, whilst the Bedouins living on the borders of the desert keep none at all. From the small number of inhabitants in the country (about three millions), we may judge of the very small number of bee-keepers there. Bees are most extensively cultivated in Upper Egypt. They are kept there in moveable earthenware vessels, and it is said that these vessels are immediately walled in. In Middle and Lower Egypt there are but few apiaries. An architect named Kindler travelled in the neighbourhood of Cairo for some time without discovering one apiary. Besides earthenware vessels, the bee-dwellings here also consist of clay cylinders. Straw hives do not seem to be in use, and when the word *kôrbe* (straw hives), is used in accounts of travels in Egypt, when speaking of bee-keeping in that country, it probably means bee-hives only.

"I only know the Egyptian cylinders by sight. They are made of the Nile mud, from which material also the poor people in that country construct their miserable cottages. Such a cylinder is about 15 inches diameter inside, by 3 feet long, and has, therefore, about the same internal dimensions as a large Dzierzon hive. It is 1½ to 2 inches in thickness. The hive is closed at both ends by means of circular discs made of the same material; and the entrance, which is but small, is made in one of these discs. Cross sticks are not employed. The cylinders lie in a horizontal position, and are placed, like draining tiles, under the shade of a tree. The stock which was introduced into Germany stood in Egypt until its removal under the large tree in the English churchyard at Cairo. The hive of the imported stock was a cylinder, only about one-third of the size of the usual hives, made so small purposely for transportation. February is the swarming season in Upper, and March in Lower, Egypt. The imported stock is a small second swarm, which issued in the latter end of March. An artificial increase of stocks is not known. Bee-caps are unknown. The Egyptian bee-keepers always approach their bees with their faces unprotected, hive the swarms, and deprive the bees of honey according as they have gathered. The Egyptian clover, *Trifolium alexandrinum*, is the favourite plant of the bee.

(To be continued.)

SIZE OF HIVES—BLACK BEES.

I HAVE a prime swarm hived June 10th, which has to-day, (July 12th), as late as six o'clock, clustered on and underneath the alighting-board of a frame hive (mentioned below as oblong). It has been very warm here. How can I stop this in future? As I can make my own hives I followed the directions given in the "Bee-keeper's Manual" for frame hives, and was afterwards told they were too large for this part (North Cheshire); so I then made my next hive to consist of eight frames of the same size as the previous one instead of ten, thus making it a parallelogram. Will this matter?

Why are all bees not Ligurians called black bees? Mine

are brown. Are they a different species and superior to the others? What would you estimate the weight of honey a Woodbury hive should hold?—A. M.

[The mere shape of your hives is of no importance; but whoever told you that the ten-frame Woodbury hive was too large for your locality was mistaken, as is proved by the bees of the swarm clustering outside your eight-frame hive. Additional room had better be given to them by putting on a good-sized super. The so-called black bees are really a dark brown, and yours do not differ from others in that respect. The common bee is quite as dark as any nigger we have ever seen.]

We scarcely understand your last question. A Woodbury hive, like all others, should contain sufficient honey to enable its inhabitants to stand the winter, say 15 or 20 lbs. If completely filled, it may contain nearly 50 lbs.]

UNITING WEAK STOCKS.

Last autumn I purchased twenty-four hives of bees, in common straw hives. Twelve of them I selected to take and twelve to keep, the latter were second and third swarms, and very light. I fumigated the twelve strong ones, and united the bees to the weak lot, six out of the twelve of which had not 1 lb. of honey each. These I fed all winter with syrup made of 3 lbs. of white sugar with 1 lb. of water, and gave it at the top of the hives in glass bottles, with black net tied over the mouths of the bottles.

I was obliged to winter the hives at the back of a south wall, where the sun never shone on them at all through the winter, and so damp was the place that the bottom boards were nearly always mouldy, but I cleaned them and dried them before a fire as often as I conveniently could. I likewise cleaned the covers, and dried them.

Early in spring, when the bees began to stir, I looked into all the hives, and to my dismay found the inside of the hives very wet, and the straw rotten; the combs also were mouldy, except where the bees had clustered. On the 30th of March I cut all the mouldy comb away, and made a quantity of barley-sugar, and fed the bees with it. I afterwards found that two stocks out of the twelve were queenless, so I united them to the weakest stocks.

I then took a small allotment garden, in which I erected a bee house, and placed my stocks in it. Since then they have done remarkably well as far as working and thriving goes, but they hung out, and would not swarm; so, on the 21st of last month, I drove them into empty straw hives. I then knocked them out of the straw hives on to the ground, and put a Woodbury bar and frame hive easily over them. In this way I drove seven hives, some of which went back, but I drove them again the next day; then I drove two of them again in about a fortnight afterwards, and another swarmed of its own accord.

My stock of colonies is now twenty—ten old stocks and ten swarms, all doing well except one old stock, which is queenless. Into this I should like to put a pure Ligurian queen. Can you inform me where I could obtain one, and what her cost would be?—ISRAEL TODD.

[Write to T. W. Woodbury, Esq., Mount Radford, Exeter. Perhaps he can assist you in obtaining a pure Ligurian queen.]

CONSEQUENCES OF REMOVING A SUPER—GREEN HONEY.

I took a large straw super from a stock hive full of honey on the 14th inst., and replaced it at once by a glass super covered from the light. There was a good deal of brood comb in the super, and I thought I saw a queen, but she was so draggled with honey that I could hardly be sure. The comb was very soft from the heat. Since Saturday a massacre has been going on, and there are hundreds, probably thousands, of dead and dying lying in front of the hive. Have I done anything wrong? Shall I leave the glass super on? The hive was a very strong one, and had never swarmed. The honey is of a pale green, and in some parts turbid.—W. D. A., Hampstead.

[We do not see anything wrong in your proceeding, unless it should turn out, as appears probable, that by spilling some of the contents of the super you have attracted robbers, and thus induced an attack by the bees of other hives, which has resulted

in the death of thousands as you describe. On the other hand, it is just possible that one of those singular interstine wars has broken out within the hive itself which sometimes, although rarely, follow disturbances among bees, and for which it is difficult satisfactorily to account. It can do no harm to leave the super on for the present, but it should be removed when the honey season is over. Green honey is a phenomenon with which we are entirely unacquainted, but which must result from some peculiarity in the pasturage.]

NOTES AND QUERIES.

I HAD five stocks through the winter, and they all commenced working well in the spring. Two of them were swarms two years ago, and each of them threw off two swarms last season; another was a top swarm last year, another a second swarm, and the last was two hives driven together. All at once, however, the driven hive and the two old hives seemed to fall off and to dwindle away. Can you tell the cause of it? There was not a drone among the bees in one hive which I destroyed. Do you think it was on account of their not having any drones that the bees did not breed?

The top swarm threw off a top swarm on June 20th, and a second on June 23rd. Between the first and second swarms the bees dragged four queens out, and, after the second, other five queens. How do you account for so many queens, and the second swarm so soon after the first? We had a hive three years ago that cast three swarms within eight days, and dragged eight queens out between them.—A. CONSTANT READER.

[We are unable satisfactorily to account for the fact that without apparent disease stocks sometimes seem to dwindle in spring, until at last, as in your case, so few workers remain that breeding languishes if it does not entirely cease. It is certain that the absence of drones has nothing whatever to do with it, whilst we have often proved that in these cases the breeding powers of the queens themselves are not always defective, since, when the population of their hives has diminished sufficiently recruited, they have frequently shown themselves equal to the task, not only of maintaining, but of rapidly increasing it. Swarms follow at short intervals when several young queens mature nearly at the same time, but we can give no reason for the fact that some stocks form many more royal cells than others.]

OUR LETTER BOX.

PRESERVING EGGS FOR WINTER USE (Harriet).—Some preserve eggs by coating them with butter, or with anything that will render them airtight. Our own way is to keep them in lime, and we can put them on the breakfast table in December as breakfast, and almost as new-laid, eggs. Take a large common breadpan; fill the bottom with lime, and so such consistency that eggs being stuck in it will retain their position. When the bottom is filled with them as closely as can be, but without touching each other, pour lime in a liquid state over them till they are covered, and a smooth surface is presented. As soon as this is the case, and you have eggs enough to form another layer, follow the same process until the pan is full. You must, of course, suit the size of your pan to the number of eggs you are likely to have. When they are likely to come slowly it is better to have a deep vessel, as they should be put in fresh, and it takes some time in autumn to obtain a large number. The appearance of a drop of blood in the yolk of the egg and the dropped egg are all unimportant. They merely remind us that the end of the laying season is at hand.

BRABMA POOTRAS VULTURE-HOOKED (J. N.).—So far from being necessary that Brahmas should be vulture-hooked to be successful at a poultry show, it is a very great disadvantage; and if they are shown against birds that are not so disfigured it becomes a disqualification. Neither Cochins nor Brahmas should have vulture hooks.—B.

BRETAGNE COWS (James H.).—You had better call on Mr. Baker, Half-Moon Passage, Gracechurch Street. He sells this variety. If the price do not suit you, we recommend you to inquire in Ireland for one of the Kerry cows. They are not more than from 3 feet 2 inches to 3 feet 6 inches high.

POULTRY MARKET.—JULY 21.

We are gradually drifting into autumn trade, but everything has been out of joint through the unusual heat. A few fresh goods have made very large prices, while many consignments have been thrown away. Should the weather keep moderately cool, low prices only will be realised.

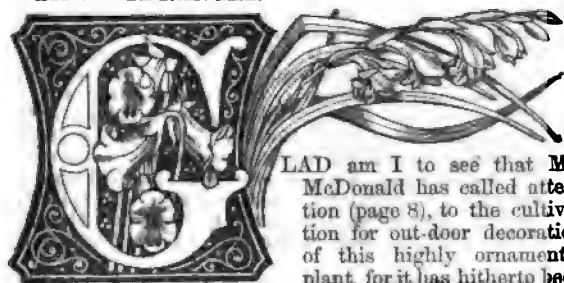
	s.	d.	s.	d.		s.	d.	s.	d.	
Large Fowls.....	3	6	to	4	0	Guinea Fowls.....	0	8	to	0
Smaller do.....	2	0	"	2	0	Partridges.....	0	0	"	0
Fowls.....	0	0	"	0	0	Hares.....	0	0	"	0
Chickens.....	1	9	"	2	0	Rabbits.....	1	4	"	7
Geoslings.....	0	0	"	0	0	Wild do.....	0	8	"	0
Duckings.....	0	0	"	0	0	Pigeons.....	0	8	"	0

WEEKLY CALENDAR.

Day of Month.	Day of Week.	JULY 31—AUGUST 6, 1892.	Average Temperature near London.			Rain in last 50 years.		Sun. Rises.		Sun. Sets.		Moon. Rises.		Moon. Sets.		Moon's Age.		Clock before Sun.		Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	m. h.	m. h.	m. h.	m. h.	m. h.	m. h.	m. h.	m. h.	m. h.	
31	Tu	<i>Anthericum plicatum.</i>	78.3	50.6	62.9	14	38 4	49 7	34 9	48 8	13	6	6	213						
1	W	<i>Adiantum verticillatum.</i>	78.1	50.6	63.4	15	38 4	49 7	34 9	48 8	13	6	6	214						
2	Th	<i>Adiantum viscosum.</i>	78.8	51.5	63.6	16	38 4	49 7	34 9	48 8	13	6	6	215						
3	F	<i>Aloe depressa.</i>	75.9	50.8	62.9	17	38 4	49 7	34 9	48 8	13	6	6	216						
4	S	<i>Aloe flavispina.</i>	75.9	51.2	63.1	17	38 4	49 7	34 9	48 8	13	6	6	217						
5	Su	10 SUNDAY AFTER TRINITY.	74.4	51.5	62.9	18	38 4	49 7	34 9	48 8	13	6	6	218						
6	M	PRINCE ALFRED BORN, 1844.	73.2	50.8	62.1	18	38 4	49 7	34 9	48 8	13	6	6	219						

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 75.1°; and its night temperature 51.9°. The greatest heat was 92°, on the 2nd, 1892; and the lowest cold 31°, on the 2nd, 1892. The greatest fall of rain was 1.25 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

THE HYDRANGEA AS A HARDY SHRUB.



LAD am I to see that Mr. McDonald has called attention (page 8), to the cultivation for out-door decoration of this highly ornamental plant, for it has hitherto been

more neglected than it ought to have been. Some persons, perhaps, may have thought it too tender, and in consequence disregarded it, while others, having only an indifferent situation, have unjustly condemned it because a hard winter killed it to the ground.

Probably the most successful cultivators of the Hydrangea are those cottagers who have turned out an ever-grown pot plant in some snug corner, where it thrives and flowers year after year with a vigour which only plants in suitable positions acquire. More rarely it is met with in some shrubbery, or near a residence built a century or more ago; but if it is employed as an ornamental object it is too often merely brought forward when in flower, and taken away when its beauties are on the decline; yet few plants look so well as a well-grown specimen of Hydrangea, whether it bloom pink or green, and no plant with which I am acquainted is more easily managed, or, rather, does better when left alone. Some villages, I may remark, derive much of their beauty from the number of specimens of this plant by which the front gardens are ornamented, and these cases might easily be multiplied.

Like Mr. McDonald I certainly recommend Hydrangea hortensis most, but would nevertheless now and then have a plant of *H. japonica* as well. A year or two ago a gentleman brought me a bloom of the latter gathered in a villa garden a few miles from Tunbridge Wells, and which was of the most lovely blue, more so than I ever remember to have seen in the Hydrangea hortensis, the buds in the interior of the corymb being equally good in colour with the expanded marginal flowers, and in size and other features it was all that was wanted. The district is, I believe, famous for Hydrangeas, and I can testify to the robust appearance of the plants, but have not seen them in flower. The soil is a sort of yellow sandy loam, on which the wild Heath may now and then be met with, and where Rhododendrons thrive well. It cannot be called a peat, nevertheless, but one of those intermediate soils which suit a large number of plants, and I am told that both pink and blue Hydrangea flowers are produced upon it. There is no stagnant water, and the subsoil is open, porous, and accessible to the roots of trees to a good depth, but turf and shallow-rooted plants suffer much from drought.

It is obvious by the appearance of the plants that shade is of much service to the Hydrangea, as the best foliage is always met with in shaded places; but the plant will

accommodate itself to a sunny situation, and is often met with in such, as well as in all kinds of soils and positions, damp and dry, sunny and shady. It is, besides, much more hardy than is often supposed. One of the largest plants I ever remember seeing was in a garden situated only a few miles south of the Tweed, upwards of twenty miles from the coast, and as bleak as could well be imagined. There was, however, a little shelter on the north side of the garden, but the Hydrangea was in no way benefited by the walls or other shelter. The situation was dry, and the substratum a sort of freestone shatter, resting on deep beds of that material. The flowers were pink. If this plant has continued to flourish it must be a magnificent specimen now, for at the time I saw it, several years previous to 1890, it must have been from 10 to 12 feet in diameter. The Hydrangea does not seem disposed to attain a considerable height, but rather to spread along the ground, and it is seldom that I have met with one more than 5 or 6 feet high unless supported by artificial means. In this respect it differs much from the Fuchsia; where the hardy kinds of the latter endure our winters they present a much more upright shrub than the Hydrangea, and like it they are deserving of more attention than they usually receive. The positions suitable for these hardy Fuchsias, however, differ much from that best adapted for the Hydrangea. A dry stony soil in the full sun, and where the substratum will allow the roots to descend a great depth, suits them best. Some that we have here scarcely lost their tips last winter, and they flowered early and well; but they usually lose some unripened wood, and consequently do not bloom so early. Extraordinarily hard winters will, however, tell on these plants, but it is now several years since the main stems were cut down. Returning, however, to the Hydrangea, I may state that hitherto we have not been so successful with it. The position allotted to it seems to have been too dry; the flowers are produced pleasantly enough, but it is distressing to see them droop in a very dry period, when watering by hand is out of the question.

The variegated variety of Hydrangea seems to be a sport of *H. japonica*. I find, however, that when planted out of doors it loses much of the whiteness which renders it useful as a plant for forcing, and, consequently, it is of less importance outside than could be wished. Of the other Hydrangeas I have not had sufficient experience to give an opinion, but one called *H. arborescens* seems not to be worth growing. While we have Hydrangea hortensis exhibiting itself in different colours, very often in a way that seems approaching capriciousness (for sometimes one half of a plant will flower blue and the other pink), we have an important field for inquiry, and it is evident that the causes which produce this are far from being fully understood, and nothing but a more extensive culture of the plant under various circumstances will furnish decisive proof of the causes of its flowers changing their colour. At the same time let it be fully understood that experiments with this plant will in general be more satisfactory if carried out in the open ground instead of in pots, because in the latter the potting mixture may have its properties

changed or modified by the water that is artificially supplied. I have known Cape Heaths and similar plants languish and fall into ill health, and now and then some of them die, from being supplied with spring water from a chalk well; and I expect that it must have been something of this kind that prevented the Hydrangea flowering blue when grown in peat soil by our late worthy writer, Mr. Beaton, or, if not this, that some other neutralising agency had been at work. This, however, like many other matters connected with the culture of this remarkable plant, deserves to be further inquired into, and the result given to the world.—J. Bosson.

NOTES FROM NEW JERSEY, U.S.

It was extremely cold weather when last I wrote to you—colder, it is believed, than ever before felt in our part of New Jersey. The thermometer registered 20° below zero. One would suppose that when the cold became so severe as this, two or three degrees more or less would hardly make much difference; but as a cold of 18° below zero kills the fruit-buds of the Peach, the difference was to us between Peaches or no Peaches. In our garden, where last season we had bushels, not one is now (July 7th) to be seen.

We thought that so cold a winter would bring as compensation an early spring; but it was not so. There was a good deal of frost in May, and towards the end of that month one cold night killed not only many tender garden plants, but, sweeping through the low grounds in the woods, blackened the new growth of even hardy forest trees and shrubs. The young shoots of the Chestnut tree and *Kalmia latifolia* especially suffered, although the wood of the latter when ripened is so hardy as to endure 35° below zero, a temperature not very unusual in the winters of some New England States. It seems strange that the young wood of such hardy subjects should be as tender as hothouse plants.

After the 1st of June, with us there is but little danger of frost, and all bedding plants may be safely put out. The sun by this time is powerful, warming the ground well by day; and the nights being still a little cool in the early part of the month, plants are by night in a sort of natural hotbed, which starts the roots at once into vigorous growth. After the middle of the month the heat increases so rapidly that about the 1st of July we generally reach the maximum of our summer heat. The following observations, made in a neighbouring town, will show what this maximum is:—

	7 A.M.	12 A.M.	5 P.M.	8 P.M.
Tuesday, June 10th	64°	73°	78°	70°
Wednesday, June 20th	60°	73°	83°	80°
Thursday, June 21st	65°	83°	88°	85°
Friday, June 22nd	69°	88°	91°	88°
Saturday, June 23rd	73°	94°	97°	78°
Monday, June 25th	73°	97°	98°	94°
Tuesday, June 26th	79°	94°	...	...
Wednesday, June 27th	80°	98°	99°	90°
Thursday, June 28th	70°	71°	78°	78°
Friday, June 29th	68°	71°	71°	71°
Saturday, June 30th	68°	74°	80°	69°
Monday, July 2nd	68°	84°	88°	81°
Tuesday, July 3rd	70°	88°	...	...

Fancy 98° in the shade for a working-day temperature. This, I confess, is an extraordinary degree of heat, even for us; but 90° is a point often reached during the summer. After three or four days of such hot weather we generally have a thunder shower, which freshens the flagging vegetation and cools the air to 70° or 80°. Every season, either in summer or early autumn, we have many consecutive days of very dry weather, during which most plants seem to suffer almost beyond endurance. These hot and dry days are, however, followed by heavy dews, furnishing wonderful refreshment; and such weather it is that gives the flavour to the Peach and the Melon, and drives the Indian Corn rapidly to maturity.

One of your correspondents speaks of my mentioning sandy ground as best for Melons, and also rightly says that our Peach trees are not on the Plum stock. With us the Plum stock for Peach-growing is only tolerated on very heavy clay soil, and not one tree in a thousand has other than the Peach stock. As for Melons, those in our immediate neighbourhood are so delicious in flavour, that as some toasts are drunk standing and in silence, I sometimes think our Melons should be eaten kneeling for thankfulness. The soil is new, and so light as to be almost drifting sand, containing only vegetable matter enough to give it the colour of light brown sugar. About two

parts of this soil and one part of half-rotted stable manure make the mixture we use.

It may be interesting to you to know how some of the bedding plants used in England endure our scorching sun. To-day (July 7th), the heat has been again very great—from 98° to 96°—so oppressive, indeed, that most of the labourers, unable to endure it, went home before noon.

Iresine, fully exposed, has not quite so good a colour as when planted in partial shade. My plants of this were well forwarded in the hothouse, and are now 15 inches high, bushy, and in vigorous health. Should I be fortunate enough to have a flower on the Iresine I will send it to you. *Coleus Verschaffeltii* is magnificent both in sun and shade; the lower leaves, when fully exposed, being beautifully toned with bronze. *Coleus atropurpureus* also does well. *Centaurea candidissima* thrives remarkably; so also do *Lantanas*, most of the *Zonale* *Geraniums*, *Gazanias*, *Verbenas* (if mulched), and *Heliotrope*. This last is said to need slight shade, but I do not find it so. *Phlox Drummondii* and *Portulaca* are most brilliant, especially the *Portulaca*, which seems to do best in the hottest and driest sand. The sun closes the flowers about noon; but until then a bed of mixed colours is one of the gayest sights imaginable. I have *Viola cornuta*, and *Lobelia speciosa*, *marmorata*, and *Snowflake* as edgings. The *Lobelias* stand well—better than the *Viola*. *Petunias* thrive, growing so vigorously in good soil that many of the blotched and variegated kinds have a tendency to run to self colours. Roses suffer much with the heat; and *Fuchsias*, of course, must have shade to keep life in them. Among variegated *Geraniums* I have Mrs. Pollock, Burning Bush, *Picturatum*, *Glowworm*, and others. Though planted in a sheltered bed, so far they have not advanced much.

The flower from which I derive the most satisfaction is the *Gladiolus*, to which our soil seems to be in every way suitable. Last season from one spike of *Madame de Vetry* I had twenty-seven blooms. This season I had over from Paris all M. Souchet's novelties, except *Maréchal Vaillant*, also many others not in my collection. Some having started into growth during the voyage, I potted and forwarded them in the greenhouse. Among the high-priced novelties Shakespeare and Milton have already bloomed, and they fully sustain M. Souchet's good name. Shakespeare especially is most admirable—a far finer flower than *Reine Victoria*, in the same style. It seems, indeed, entitled to be called, as in the catalogue, perfection. Milton comes with me rather more rosy than is described, being a rosy blush nicely flaked with rose, a fine flower.

Thinking of *Gladiolus*, however, I cannot forbear telling you how fine they are for dinner-table decoration when arranged with alim and tall-growing Ferns. We had the other day a piece of this sort with *Princess of Wales* in the centre, surrounded by one or two *El Dorado*, *Madame de Basseville*, *Penelope*, *Brenchleyensis*, *Walter Scott*, and *Canary*. A few *Fuchsias* drooping here and there under the Ferns gave a charming effect.—GEORGE SUCH, South Amboy, New Jersey.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

MUCH pleased was I, and so, I have no doubt, were many more besides myself, with the valuable suggestions offered by Mr. W. Paul, in his article on the above in THE JOURNAL OF HORTICULTURE for July 10th, as it seemed to be the first step towards uniting gardeners in forming one brotherhood or society, such as all other trades or professions have, to assist the aged, to benefit the afflicted, and to regulate the wages. Why should not the gardeners have theirs? Surely they are as able and willing to form a society as those pursuing any other calling, and I think I may add without boasting, being one of their number, that they are as intelligent and steady as any class of men who work for their living. I am aware that several articles have been written in your Journal on the subject of wages, &c., which have been ably answered by Mr. Fish from time to time in a very kind and considerate manner; but as nothing definite has come of them, and as the above Institution purports to be for the benefit of gardeners, could not its influence be extended for their benefit? Perhaps I may be asking too much, but it is a fact that there are scores, and I think I might say hundreds, of gardeners totally ignorant of the existence and the benefits to be derived from such a Society, except what they may read in the occasional articles that appear in THE JOURNAL OF HORTICULTURE. Now, as a first step in the matter,

I would suggest to the Editors the advisability of presenting us with an article on the origin, the working, and the benefits to be derived from the Gardeners' Royal Benevolent Institution, and I am certain that by so doing they would oblige a great number of their readers.—P. DIXON.

ROSES SENT OUT IN 1865.

It is not possible to form a correct estimate of the merits of a Rose till it has undergone a period of trial which shall embrace a sufficient time to determine the most important points connected with it. These are: the flower—its colour, shape, and size—and the constitution of the plant—its habit, foliage, and blooming qualities; hence, if we see only the flower, we have but one half, and that the least half, of the information which we seek, and it is not till we have the living plant under our notice for a complete season that we can judge fairly of its merits or otherwise. In taking down the names of new Roses as seen for the first time at the great exhibitions these circumstances should be borne in mind, particularly by those who intend to purchase, in order to prevent after-disappointment. I have known many instances of this: such Roses as Madame Furtado, Impératrice Eugénie, Le Rhone, Louis XIV., H. Laurentius, and François Lacharme, are well-attested examples, all of them being, when perfectly grown, among the most beautiful of Roses, and sure to attract attention; but it is only in favoured situations that they will grow, owing to defect in constitution.

The Roses received from France, with others raised by English growers, and sent out in the spring of 1865, were in number only a little short of one hundred varieties, and have now been among us sufficiently long to enable us to state something definitely about them. In the schedules of the Rose shows, they are for the present year considered new, but I have not characterised them as such from there having been more than half as many sent out since—that is, in the spring of the present year. Of the latter I can add nothing to what has been already stated by our respected correspondents, Mr. Radclyffe and “D. Deal.” My evidence, too, on the former must be considered rather as corroborative than otherwise of the sound judgment arrived at, and correct information furnished, by those gentlemen in their interesting articles. It is derived from plants growing in my own garden on the Manetti stock, and in a very light soil, from others in the garden of a valued friend, Mr. W. T. Sargent, Brooke Lodge, Redhill, both on the Dog Rose and Manetti, in strong clayey loam, and as seen in large quantities in the nursery of Mr. William Paul, at Waltham Cross, which I recently had the pleasure of inspecting.

So far as yet proved, the Roses of 1865 show a somewhat greater proportion of the whole number to be good than for several years previously. It would be rash to say that they are equally good, which is not the case, but they are of sufficient excellence to secure a place in the rosy for some time to come, and some of them show marked improvement over older varieties.

I subjoin a list, not, indeed, assumed to be complete, but all of them contained in it can safely be recommended, and to use Mr. Radclyffe's expression, "people will not burn their fingers with them."

Abbé Berlièze
Achille Gonod
Belle Normande
Charles Margottin
Charles Wood
Dr. Andy
Duchesse de Caylus
Duke of Wellington
Elizabeth Vigneron
Glory of Waltham
Général d'Hautpoult
Jean Rosenkrans
Madame Verschaftelt

Madame Charles Verdier
Madame Elise Vilmorin
Madame Moreau
Mdlle. Amélie Halphen
Mercechal Niel
Marguerite de St. Amand
Rushon Radclyffe
Semiramis
Triomphe des Français
Xavier Olho
Beauty of Westerham
King's Acne

To particularise a few of the above.

Belle Normande is a very vigorous grower, with flowers like *Duchesse d'Orleans*. I do not, however, think it is better than our old favourite.

Charles Wood will supplant *Louis XIV.*, being vigorous in habit, with larger flowers, and equally good in colour.

Duchesse de Caylus is probably the best in the list; a most lovely carmine Rose, of perfect form.

Duke of Wellington will be welcomed as quite distinct from any other of the scarlet crimson tribe, which are now so numerous, and must be weeded out.

Dr. Andry and *Général d'Hautpoult* are two of M. Eugène Verdier's seedlings, both very fine in form and colour.

Elizabeth Vigneron is a fine Rose, both for the show-box, and for garden decoration. It was magnificent last autumn.

Glory of Waltham fully merits its name. It is without doubt the grandest climbing Rose known.

Mlle. Amélie Halphen is another carmine Rose of great beauty.

Maréchal Niel is the "sensation" Rose of the year. Last winter was not sufficiently severe to test its hardiness, but the frequency of its appearance in the show-boxes seems to indicate a free-blooming quality.

Madame Charles Verdier is a very large and full Rose; it may be pronounced good, with the qualifying remark that its form is not pleasing.

Marguerite de St. Amand is one of the best. As a light Rose it may be put down as "a decided acquisition."

Rushton Radehyffe is a fine full Rose, and when quite open globular and imbricated—that is, the petals overlap like the tiles on a house. The respected name with which it is associated also gives it a claim to consideration.

Xavier Okibo requires further trial before I can speak confidently of it. There is room to hope that it will prove a valuable addition to our dark Roses.

Beauty of Westerham and King's Acre, as English seedlings, should be favourably noticed as instances of the efforts of our own growers. The powerful fragrance of the first is a very strong point in its favour.

To speak of the nursery at Waltham Cross and not to notice the bedding Pelargoniums would be an almost unpardonable negligence. The gorgeous beds now in full bloom, in contrast with the well-arranged clumps of hardy shrubs and other plants, for which this nursery is also famous, are very remarkable. It is not difficult to imagine how anxious the lovers of the bedding-out system, and they are legion, must be to possess this beautiful strain of colour as seen in Rebecca, St. George, Salmon Nosegay, &c., which must, indeed, be seen to be appreciated.—ADOLPHUS H. KENT.

PEACH-TREE PRUNING.

"The Modern Peach-Pruner," by the Rev. Thomas Bréhaut, has been already printed in separate articles in THE JOURNAL OF HORTICULTURE. I have now perused it in its collected form, which has enabled me more easily to compare its several parts; and I advise all Peach-pruners to obtain the volume, consisting of 178 pages. Its contents are as follows: The first part is introductory, containing the History of the Peach, the Theory of Vegetation, Phenomena Connected with Growth, Soils and Manures, Aspects and Shelters, Transplanting, and Useful Maxims. The second part is on Long Pruning, containing five sections. The third part is on Close Pruning, containing five sections; and in my opinion the grand secret lies in these five sections. A mixture of spurring and pinching to 6 or 8 inches is the system that I have always pursued, and I have found it answer. My ten trees, planted here so late as April this year, are so pruned, and they will bear well next season. I showed them yesterday to my old friends Mr. and Mrs. Farquharson, who approved of the plan.

The fourth part, containing four sections, relates to Orchard-house Pruning and Training, and to Variations from Seed, by Mr. Rivers. The Appendix is also by Mr. Rivers, and contains three sections:—On Diseases and Insects, a list of choice Peaches and Nectarines for the open wall, and another list for orchard-houses.

The work is a very valuable one, and should be in the hands of all those persons who profess to prune Peach trees. Long pruning may suit the more genial climate of France, but short pruning, or rather short pinching and spurring, is best adapted to England. I conclude by thanking Mr. Brishant and also Mr. Rivers.—W. F. RADCLIFFE. *Oxford Fitzpaine.*

POTATO ONION.—Your correspondent, "G. S.," in the Number for the 17th inst., wishes to know if any of your readers has, like himself, found their Potato Onions refuse to increase in number. Small bulbs when planted always grow large, and rarely ever split; but good-sized bulbs always divide into from two to seven bulbs, or even more. I often wonder that Potato Onions are not more grown, as by deep culture, with plenty of manure and watering well with weak manure water during the

growing season, a heavier crop may be obtained from them than from any other Onion which I have tried. We always selected our Onions for showing from them, and were generally successful. Their only fault is their not keeping late in the spring. We always grow James's Longkeeping, or some similar kind, for late use.—W. C.

HINTS ON HYBRIDISING FRUITS.

HAVING been occupied for many years in hybridising plants, and being very fond of it, I at length turned my attention to fruits: I commenced with Grapes.

My object was to make the Muscat easier to cultivate, and increase the size of the Frontignan; also to make the large scarce kinds of a better flavour, and to improve the early ones.

I began, in the first instance, with the Muscat of Alexandria, one of the most difficult Grapes to cultivate, and the Tróvén Muscat, a remarkably free grower, but a long time in coming to maturity. It is a most delicious Grape, though not so highly musked as the former. I expected to obtain Grapes less difficult to cultivate, and was partly right; but I was rather astonished at the final results. It should be premised that the Tróvén is a round Grape; the Muscat of Alexandria an oval one. The latter I made the female parent; and out of thirty seedlings no two were alike. The first three that fruited were black, one being a large early Grape, in shape an oval, with a fruitstalk like a piece of wire; it was of a very fine flavour, with the slightest possible taste of Muscat, and hung well. This was a great success and well worth all my trouble. The other two were late ones, with large round berries, but nothing else remarkable about them. In the following year I fruited ten or twelve more from the same lot. One of these was of a beautiful white or golden colour, and ripened quite as soon as the Hamburg; its fine vinous flavour was exquisite, mingled as it was with a Muscat taste about half as strong as that of its parents. This also had very stiff fruitstalks, and kept a very long time. Another, and this astonished me more than anything else, was a perfect miniature of the Muscat of Alexandria, perfectly oval, and with the strongest Muscat flavour that I ever tasted, but it was no larger than a Red Currant! I have not as yet discovered anything very remarkable among the others. The next experiment I tried was with General Marmora (no doubt a white seedling variety of the Hamburg) crossed by Burghard's Amber Cluster (Early White Malvaire). My object was to obtain a very early Grape; and in this I succeeded beyond my expectations, as I got a very fine white transparent Grape like the Amber Cluster, but as large as the Hamburg, and fully five weeks earlier than that kind. This of course is a great gain, and what has been much wanted, as the Sweetwater Grapes are very bad settlers, and the Muscadine is too small for table use. The next crosses were between Blanc de Sémur and Chasselas Musqué, and Chasselas Musqué and the Citronelle. From these two crosses I have obtained the most delicious kinds that ever came under my notice, more so even than the old Frontignan and Chasselas Musqué. Two of them are sweet-scented, smelling, when the sun shines on them, like Orange-Blossom. Nothing I have ever seen can compare with them in flavour and productiveness; their size, too, is very large, some of them being as large again as the Frontignan.

Two other most remarkable crosses are Chasselas Musqué fertilised by the Long Noir Durant, a large oval black Grape, of a very large bunch, but of an inferior flavour. This cross produced Grapes of various colours, black, pink, and grizzly, but all quite round. The next time I made Long Noir Durant the female parent; and, curiously enough, the result was almost identical with the former, there not being an oval berry obtained. A very slight Muscat taste is observable in a few; but in the greater number it is not observable at all.

These are the results from about 500 seedlings that I have raised and 400 sorts that I have fruited; I have some more yet to fruit, such as the Canon Hall crossed by the Japanese one.

As the result of my experience, I am convinced that no one can tell, in raising a lot of seedling Grapes, what they will be likely to get, they vary so much.

I next directed my attention to Peaches.

My object was to obtain Peaches with Nectarine flavour, and I am glad to say I have succeeded. The Nectarines I made the female plants were the Violette Hâtive, Fitzmaison Orange, and the Stanwick, crossed with the Nobleme and Barrington.

Rechen. Although the Violette Hâtive Nectarine had a small flower, still, when crossed with the large-flowering Peach, eight out of twelve were large-flowered; and out of fifteen kinds fruited this summer only one was a Nectarine, the others were all Peaches, most of them with the Nectarine flavour. Two of them were especially delicious, having a beautiful Nectarine flavour, melting like a Peach, but full-coloured like the former fruit. The stones that produced the seedlings were sown in the beginning of February 1868; the greater part of them flowered in February 1864; but the fruit fell off. I now have one planted out in my Peach-house that will have next June ten or twelve dozen Peaches on it. It is 10 feet high, about the same width, and covered with fine-blooming wood.—JOHN SEANDLER, Royal Nursery, Ascot, Berks (in *Journal of the Royal Horticultural Society*).

THE ROSE GARDENS OF LYONS.

UNDER the guidance of Mademoiselle Joséphine Lacharme—not exactly the fair nymph whom one would imagine ought to wait upon the queen of flowers, but a jolly good-tempered and communicative maiden, who gave me on our way the history of her brothers and sisters, who all seemed well to do—I found my way to Damaizin's, through fortifications and past fosses and glacis, which give one the idea in France that either her children are very rebellious and want very much keeping down, or else that she has very naughty neighbours who are continually on the watch to plunder her; and then into dusty roads ankle deep in white dust, which after a good storm will be converted into deliciously tenacious mud, to find, alas! that Damaizin was not at home, and that Madame Damaizin could not give me any information on the subject of the new Roses. I saw enough, however, to enable me to say that his garden is very neatly kept, and in this respect very different from Lacharme's.

On again through the dust and heat of a broiling day I toiled to Ducher's, for there were no *saïces* to be had here, and I had sent home mine. Here, however, I was more fortunate; Ducher was at home, and on my mentioning my name I was cheerfully recognised, and shown over his grounds. These are not large, and I forgot to ask him whether he had grounds elsewhere, but there were some good Roses to be seen. He at once said, "Ah! I will show you a beautiful Rose, I suppose called after your daughter;" and there truly was a grand bloom of Mademoiselle Marguerite, which he pronounced to be one of the very best Roses of this year. He has several seedlings to be let out this year, and one of them, of which I shall have the name (having only the number now), I consider to be the best Rose I saw abroad. He has striven to avoid the blood of Général Jacqueminot, and has succeeded in obtaining some good Roses. One is a seedling of La Reine, another a seedling from William Jesse like Baronne Prevost in shape, and the one already alluded to a seedling of William Jesse and Madame Damage, very good shape, free-flowering, and bright in colour, a distinct and good Rose. He showed me a plant with the very darkest foliage I ever saw, I think, in a Hybrid Perpetual, but the flower was white! and opened but indifferently.

I had yet another journey to make to Guillot fils, so well known to all Rose-growers by name, and Ducher accompanied me there. Generally speaking this is not a good plan to adopt, for there is a reluctance in a French Rose-grower to show you his novelties before another; but as M. Guillot had been prepared for my visit, I did not mind this, and I found that when we arrived there Ducher left me to go round the garden alone with the proprietor. M. Guillot has given us many good Roses, and as he had written to me strongly in favour of a new Tea Rose of his, I was anxious to see it. It will be, I believe, a valuable acquisition. It is a very beautiful flower, of a bright yellow colour, the centre sometimes peach, the habit of the plant vigorous, and the flowers freely produced. It is to be called, I believe, Bouton d'Or. He has another yellow not so good, and a fine-looking seedling of Général Jacqueminot of imbricated form; this may prove to be a good Rose. There was also a Rose of which I hope great things, but it is not to be let out till 1887, a Hybrid Tea—Tea and Hybrid China I believe, or Perpetual—the colour a bright rose, and the flowers large. I hope to make a further acquaintance with this flower. Joséphine Beaunharnais, one of Guillot's flowers of this year, is beautiful. President Mas I do not consider much; and Plume is quite a second-rate flower, and coarse. While waiting here, and refreshing myself with a glass of Bordeaux,

which I found very good: after a bracing morning's walk, General, who is favourably known to us as the raiser of Madame Moreau, came in and announced, as I was now anxious to get back to Lyons, where I had left my better half, to bring to the hotel blooms of his new Roses. This he did in the evening, and amongst them he had a fine flower in the way of Virginal, only somewhat larger; another was in the way of Madame Million, a light pink, and very promising.

It will thus be seen that I do not consider that anything very remarkable is coming to us from Lyons this autumn. When the fests are out, and I can compare the numbers with the names given to them by the raisers, I shall hope to say something more positive; but I can only repeat now that I do not think I have seen any new Rose abroad equal to Ward's seedling, Mrs. Ward. Since then he has sent me a box of blooms of another variety, Mrs. John Berners, which also promises well. It is an imbricated flower, of good size and bright colour, and very vigorous.

Tired as I was with my morning work, it did not prevent me from taking a bracing walk up to the church of Notre Dame des Fourvières, whence, in favourable weather, Mont Blanc, although a hundred miles distant, can be seen; but the day was too fine, the heat causing a haze which obscured the view. After dinner we started off for Paris by night train, and it was not surprising, I think, that I felt considerably tired the next day. I enjoyed, however, amazingly my walk amongst the Rose gardens of Lyons, and was glad to bring home any scrap of information that may be useful to the Rose-growers of England.—D., Deal.

HORTICULTURE IN HUNGARY.

Some observations from an eye-witness of the condition of horticulture in one of the most beautiful countries of the south-east of Europe, can scarcely be unacceptable, when it is considered how very little, comparatively, is known of a country which contains no less than 6155 geographical square miles. My residence for three years was at Szűd, in the neighbourhood of Schemnitz; but I have had frequent opportunities of visiting other parts of the country, to which my observations equally apply.

As the vegetables more commonly in use, including Tomatoes, are supplied almost entirely by field cultivation, the kitchen garden is by no means the prominent object which it is in England. The vineyards supply the finer kinds of fruit—such as Peaches, Nectarines, Apricots, Medlars, and Figs; while different kinds of Gourds are planted along the boundaries, forming a loose kind of enclosure. Some of these are cultivated merely as food for cattle; others are used as Vegetable Marrows, amongst which is a very superior one known under the name of Spargel-Kürbiss (or Asparagus Pumpkin), while others are a favourite food when baked. Cucurbita melanosperma is amongst the kinds which are cultivated; but it does not appear that they have, at least north of the Danube, any variety of Cucurbita moschata, which almost supersedes the Vegetable Marrow where the heat is sufficient.

The commoner kinds of fruit, such as Cherries, Mulberries, Walnuts, Strawberries, and Raspberries, grow on the mountains, on the roadside, or by every ditch or waste piece of ground; so that even in bad years the proprietor has a constant supply without any pains, and in good years he merely gathers the best, and lets every one, after he is served, take what he pleases. In fact, travellers, or, indeed, every passer-by, help themselves for the most part without any let or hindrance. The orchard is almost exclusively devoted to the cultivation of Plums (which are grown in enormous quantities), for drying, a process which is performed on hurdles in a low-heated oven. The varieties, however, in cultivation are very inferior to those which yield the better kinds of French Plums of commerce. A few Pears and Apples are grown, but of very inferior quality. Wall fruit is unknown. It cannot be expected, therefore, that much attention should be devoted to the kitchen garden, though a few hotbeds, as in England, are made for the rearing of Brinjals, and other plants which require to be brought forward artificially. The better kinds of Melons and Cucumbers are grown on the open ground in the garden, while the large coarser kinds and Water Melons (which are of excellent quality), are consigned to the field. Cabbages, Carrots, the different kinds of Kidney Beans, some of which are of very superior quality, and a few other vegetables, have garden culture. A very small kind of Fulse, known under the name of Rice Beans, used frequently

for soup, and belonging apparently to the genus Dolichos, with one or two other sub-tropical varieties, is an object of cultivation. Fruit trees, with the exception of a few Apricots and Plums, and for the most part excluded; as regards those beyond the pale, scarcely anything is done in the way of pruning beyond chopping off the dead or useless branches, which takes place in April.

The flower garden is of far more importance, and is in general large, and laid out in beds of various shapes, in the midst of a lawn, which is, however, not kept close-shaved as in England, but is mowed three times only in the year, as the proprietor depends on the grass plots for the maintenance of his cows in summer, the meadows being devoted to the production of hay for the winter food of the sheep. It is mowed by the cowherds, who carry it away on a curiously-shaped cart drawn by two donkeys: the cart is made without a piece of iron or a single nail. The paths are made of silt, which is brought from the larger rivers, and the beds separated from the grass by a very prettily worked edging of wickerwork, the bark of the Osiers having first been carefully removed. The flowers are of much the same sorts as those cultivated in England, though, from the severity of the winter, some perennials which succeed with us do not admit of out-door cultivation. Numerous white chairs and tables are scattered everywhere, which, with the wickerwork of the borders, give the ground a gay appearance.

What, however, strikes an English eye the most is the entire absence, in most Hungarian gardens, of anything like evergreens; for there are no Yews, no Cedars, no Firs, no Holly trees, nor anything that is green in winter; in consequence of which there is a comparative want of contrast in summer, and an appearance of utter desolation in winter. In summer the foliage is afforded chiefly by Acacias, Gladiolus, Poplars, and occasionally Oaks.

The garden is cultivated by peasant girls under the superintendence of the gardener, who are paid 2d. a-day. They always go about without shoes or stockings, as the only time when the Hungarian peasants wear shoes, which are considered a luxury, is when they are at church, or when the snow is on the ground. As was formerly the case almost universally in Scotland, the boots or shoes are carried in the hand, and put on only when they arrive at the church-door.

The tools generally used in a Hungarian garden are very large heart-shaped hoes and wooden rakes. A spade is very seldom seen. The wheelbarrow holds no more than a bushel, and is made entirely without iron, the wheel consisting of a disk of board, and the spindle of a piece of juniper or other tough wood.

The most prominent feature on entering a Hungarian gentleman's garden is the hothouses, which, though not as magnificent as they are frequently in our own gardens, are on an extensive scale, adapted to the exigencies of the climate. They are of three different kinds: 1, the Szaporító Ház (the slip or propagating-house); 2, the Hajtó Ház (the forcing-house); 3, the Hideg Ház (or cool-house, answering to our greenhouse or orangery).

The Szaporító Ház is a neat structure with four stone walls and a sloping roof of glass, the front wall being 4 feet high, and the back wall 7 feet. It is heated by means of a flue, which goes round the house from the furnace to the chimney. The flue is enclosed in a wall or bricks about 3½ feet high, in which there are four doors for the insertion of pans of water, which are placed on the top of the flue. Deal boards, which have numerous holes pierced in them, are nailed to the two walls over the flue, and on these the mould is placed, the holes in the boards being first filled up with moss, so as to prevent the soil falling through, and at the same time to admit the steam which arises from the pans. Cuttings inserted in the mould, which are either uncovered or protected by bell-glasses, grow, when treated in this manner, with astonishing rapidity, and are soon ready for potting-off.

The Hajtó Ház is built in the same manner as the propagating-house, but has simply a flue. Into this the cuttings are removed as soon as they are potted, and arranged on stages. The furnace is heated with wood, of which only a small quantity is necessary. It is in this house that Rose-grafting is conducted, the stocks being got forward in it by the beginning of February. The top is then sawn off horizontally, a slit made in the cut surface, and the graft inserted, and secured by a cement made of resin, wax, and Venice turpentine. When treated in this way, scarcely a single graft fails, and the trees bloom well in the summer. This method is found to answer far better than budding, which is not suited to the climate.

The Hideg Ház, or orangery, is a very large room, heated by a flue in the soil, and glazed in front after the old English fashion. The chimney is composed of a number of large quadrate pieces made of clay, each succeeding piece fitting into that beneath, and decreasing from the base upwards. The whole, which is in the inside of the house, is painted green, and has not a bad effect. The plants are beautifully arranged, and the whole forms a sort of winter garden. The Orange and Lemon trees are dispersed in pleasing groups together with the shrubs, and the flowers in variously-shaped beds; but instead of having the wickerwork edging which is seen out of doors, they are surrounded by beautiful minerals from the mines, which often contain a good deal of gold and silver.

The expense, of course, varies according to the wealth of the Magyar; but, as a general rule, it may be reckoned that it amounts to about £60 a-year; and many of the nobles do not think it derogatory to their dignity, though extremely proud of their pure descent, to diminish the expense by the sale of the plants.*—MILES BERKELEY, Esq. (in the *Journal of the Royal Horticultural Society*).

RED SPIDER AND THRIPS.

I HAVE just read Mr. Abbey's intelligent and interesting paper on red spider, and concur with him in most of his observations, as every practical gardener must. Still, everyday experience inclines me to differ from him as to the predisposing causes of parasitical diseases and insects, and of red spider in particular, believing, contrary to Mr. Abbey's opinion, that the disease is in almost every case due to certain conditions of health, and that its existence in some cases is so strictly dependant upon those conditions, that unless they are present actual contact will not produce it. Mr. Abbey considers the principal causes of red spider to be a dry atmosphere and a high temperature, with too little air at night, and that ill health does not predispose to the insect unless these conditions are present—conditions, I will just observe here, sufficient in themselves to produce ill health and thereby induce disease. But I will state facts, and let your readers judge.

The worst case of red spider and thrips I ever saw was in an aquatic-house. The centre of the house was occupied by a tank devoted to the growths of aquatics. The water in the tank was heated by pipes passing through and in contact with it, so that the atmosphere of the house was continually charged with vapour, and to such an extent at night that the leaves of the plants dropped with the weight of the condensed moisture, yet on no occasion did I ever see *Caladiums*, *Crotons*, and other plants suffer so severely from red spider and thrips. Owing to the aquatic occupants of the tank the house could not be shaded sufficiently, perhaps, but otherwise the plants referred to received every attention. The ventilation was sufficient, and the temperature was not too high for the inmates. So much for a moist atmosphere as an antidote for red spider.

Again, our Melon and Cucumber-house here is separated from a Pine-stove by a partition, and the two communicate with each other by an open doorway. Dwarf Kidney Beans were grown on the back kerb of the Pine-stove all the winter, and were at no time free from red spider and thrips. The Melon-house was also occupied by Kidney Beans before the Melons and Cucumbers were planted, so that there was no doubt about the presence of the enemy, and trusting to our own notions of warfare in the matter, the house was only slushed down with cold water, more for the sake of cleaning the glass than anything else. The bed was made up, and the Melons and Cucumbers were planted about the middle of January; and although there was constant traffic between them and the Kidney Beans by the men on duty, they remained perfectly clean, and the Melons ripened off an excellent crop, whilst preserving their leaves perfectly green, by the end of May. The Cucumbers and Melons were grown in large pots, drained so that they could not be over-watered, and plunged in the hotbed, and the only means taken to check red spider was supplying them with abundance of water at the root, and occasional strong doses of liquid manure. The weather was cold and the firing hard, yet the Melons were rarely ever syringed overhead all the time. The vigour of the plants, as indicated by their dark glossy green leaves, was kept up entirely through the roots.

* NOTE BY THE REV. M. J. BERKELEY.—I have in my possession a catalogue of the plants in the garden of a Magyar of some property, with the prices attached, as in a nurseryman's list.

The third case is even more remarkable. In a range of new vineries here, part of the old Vines are retained. They are not unfruitful nor unhealthy, and are in general remarkably free from red spider; but having decided upon lifting their roots and renewing the border, we lifted about one-third of them last autumn. The operation, of course, checked them for this season, and they broke weakly at starting, and were attacked by red spider almost as soon as the berries were set, and it has only been kept in check by the free use of sulphur on the leaves; while those that were not lifted, the same sort in the same house, have remained almost entirely free from the insect to the present time, and except mulching the border, nothing whatever has been done to them to check it. It is our third vinery, and the Vines are now ripening off their crop.

I will just record another instance, connected with green fly. We force annually a long pit of early Potatoes. Owing to the proximity and position of the border, rather too much bottom heat is communicated at one end of the pit during hard firing; the Potatoes are, consequently, injuriously affected by the extra stimulus, and in cold dull weather become drawn and weak. This was the case last spring, and the stems of the Potatoes for two or three lights from the boiler end, were attacked again and again by green fly, in spite of smoking and other preventive measures. The pit was planted halfway along with the same variety, but the insect progressed only so far as the Potatoes were weak and affected by the extra heat, being most numerous next the furnace, gradually disappearing as the distance from it increased, and eventually disappearing to some extent from the affected plants also as the weather improved and less fire heat became necessary, clearly proving that impaired vigour was the cause of the attack, so far as circumstances could enable any one to judge.

I could state many more such instances, but these are sufficient to prove that the occurrence of the insects, if not altogether dependant upon, is at least greatly influenced by, certain conditions of health.

I agree with Mr. Abbey, that water may be said to be the natural enemy of red spider, but I attribute the presence of the insect more to the want of moisture in the soil than in the atmosphere, and not so much to the mere absence of water as to the absence of that medium through which plants can alone absorb their food. We know that among human beings and animals poverty predisposes to disease, and it is not carrying analogy too far to suppose that plants are similarly affected. I never yet saw a perfect cure effected by any of the usual external processes and applications, and I look upon all such as merely temporary expedients, and believe that the maintenance of vigorous health is the only sure way of guarding against such parasites.—J. SIMPSON, Wortley.

POISONED GRAIN, &c.

MR. FISH, referring to my letter at page 42, expresses a doubt whether in laying poisoned stuff for rats, &c., he may not be rendering himself liable to the £10 penalty under the Act.

I did not wish to trespass on your space, and therefore only gave a general sketch of the Act; but, in order to satisfy Mr. Fish, allow me to state that in the Grain Act the fine is only imposed for sowing, casting, &c., "in or upon any ground or other exposed situation;" and in the Meat Act poisoned flesh may be placed in any dwelling-house, building, or enclosed garden, or drains connected therewith (provided the same have gratings over), or in ricks, to destroy vermin, and also on land; but in the last case notice must be posted up to that effect, and written notice given at the nearest police station thereof.

The objects of these Acts are evident—viz., to preserve game and small birds. You must not scatter poisoned seed in an enclosed garden, because birds could fly over and eat it; but poisoned meat few birds would touch.

As to the question of whether you are sowing "protected" seed, or merely covering poisoned seed to try and evade the Act, that would depend on circumstances—e. g., if I sow valuable flower seeds in a bed, and then intermix them with poisoned Peas or corn, the inference would be, as the fact is, that I am trying to tempt the birds with my Peas and save my flower seeds; but if I sow poisoned (red-leaded, &c.), Peas in my usual vegetable department, my real motive is difficult to guess.—LEX.

STRAWBERRY SPORT.—We have received from Dr. H. Thomas of Chester, a unique sport of the Strawberry. The berry,

very irregular in form, is ripe, and from the side grows a flower-stalk an inch long, calyx, and stamens, but no petals or pistils. On dissection, it was evident that the flower-stalk was emitted from the skin of the berry.

ROYAL HORTICULTURAL SOCIETY.

JULY 24TH.

FLORAL COMMITTEE.—The Floral Committee visited the Society's gardens at Chiswick to inspect and report upon the trial plants of the present season. The Committee met in large numbers, and proceeded to examine the Zonale Pelargoniums which had received awards on former occasions. Those persons acquainted with the extensive collection of these plants cultivated in the gardens will know what numerous varieties are there to be seen. Upon the principle of reducing the numbers, avoiding similarity of varieties, and selecting only the very best and most distinct in each class, the Committee set to the work, and decided to remove from the collection several kinds which had previously received awards, but which are now surpassed by better kinds. Some fifty-eight or sixty sorts were struck off the list, not for bad qualities, but on account of their inferiority to the new varieties of the past and present year. First-class certificates were awarded to the following varieties which had received second-class certificates—viz., Harry Hieover, Red Riding Hood, and Rev. J. Dix. The last-named, which is a seedling from the Society's garden, was much admired for the profusion and brilliancy of its deep scarlet flowers and its compact habit.

First-class certificates were awarded for the following new varieties of 1886:—Orange Nosegay, Waltham Seedling, Marie Mézard, Brilliant Superbe, Variegated Stella Nosegay (Smith, Hornsey Road), Madame Barre, Miss Parfait, Madeline; second-class for Violet Hill Nosegay.

First-class certificates were awarded to the following Fuchsias:—Boderick Dhu, Enoch Arden, Father Ignatius, Lady Heytesbury, and Conspicua, all very beautiful kinds. First-class certificates were also awarded to striped Verbenas:—Mr. Wood, Madame Hermann Stenger, Oreglia, and Ada; and a second-class certificate for Atraction.

Very many of this year's novelties were not in a condition for examination, the Committee will consequently soon meet again to report upon them. The collection of Zonale Pelargoniums in pots, exhibited in the old Rose-house, was much commended and admired. Much credit is due to the gardener who has the care of them, for they were well grown, and afforded good examples of those varieties which will not endure exposure to the sun and wind. The improved aspect of the gardens was generally approved of, especially the walk from the entrance leading to the vinery. The circular beds of fine-foliaged plants, continued on each side of the gravel walk from the Zonale Pelargoniums, were highly commended, and will doubtless prove very attractive and useful to such of the Fellows as have not much knowledge of plants. They can here at one view see and select what plants are most suitable for decorative purposes out of doors, when intermingled with the gay and vivid colours of the usual bedding-out plants. The Hollyhocks were very fine, and will soon be in perfection. The whole appearance of the floral department of the garden was most satisfactory.

A large party of the Fruit and Floral Committees, after the business of the day, dined together under the old iron tent, with its innumerable iron ribs, and thus finished a very pleasant and satisfactory day. The services of Mr. Barron, the present Superintendent of the gardens, were duly acknowledged, and the Committee dispersed.

PLANTS INJURED BY FUMES OF GAS TAR.

I BUILT a small span-roofed house, for a succession-house, 40 feet long and 10 wide, with a walk through the centre, and a tank on each side, using on the outside of the tanks and on the sides of the house a coating of gas tar. I commenced filling the house with Roses, Spiræas, Grape Vines, &c.—plants to get stock from. The plants being dormant, of course I could not see at first if the gas was hurting them or not, for as soon as the heat began to rise the gas began to make its appearance very plainly. On the plants commencing to grow, it killed the young shoots as fast as they grew, and in fact, killed a great many large plants, both root and branch. The Rose and Grape Vine leaves would turn black, become contracted, and then fall off.

It being apparent that I must either shut up the house or control the gas, I went to work and boarded up the tanks, at the same time washing the ends of the house with thick water-lime, and I have at last, after a great deal of trouble and anxiety, succeeded in being able to grow plants tolerably well.

Some few years since, the President of the Rochester Gas Company being informed by a friend that gas tar was a good thing to keep off the bugs from the Squash and Cucumber

plants, resolved to try some. A few days afterwards, on being questioned as to the result, he said that it was the best thing that he had ever seen, for it had killed the bugs, but at the same time it had killed the plants likewise.—J. CHARLTON (*American Gardener's Monthly*.)

THE CINERARIA.

THIS is one of the most useful plants we have for conservatory decoration, both in winter and spring; in fact, it seems to be almost indispensable for that purpose, for there are very few places to be met with where it is not grown—from the humblest amateurs who possess but a small greenhouse, to the castle or palace gardens; and where cut flowers are required in abundance, it is invaluable.

It is very probable that what I have to advance upon the subject is but an old tale to some of your more experienced readers; but there are numerous instances to be met with which evince that the proper treatment is not universally understood, and this, I think, will be sufficient apology for my intruding with an old subject.

Although the Cineraria can be had in flower from December up till May, yet the latter period seems to be its natural season for flowering; at no time is it to be seen in such perfection as then. The usual method of propagating is from seed, or by cuttings, or suckers that come up from the roots of the old plants. Most people use the former method when the aim is simply for conservatory decoration or for cut flowers; it is the most expeditious way, and perhaps answers the purpose equally as well; but care must be taken that the seed is saved from good varieties, as the tendency in nine cases out of ten is to degenerate. The expense of a packet of seed from some party who is well known to keep a good strain is trifling compared with the advantage gained thereby; and where it is not practicable to obtain seed from good named varieties, this is the safest resource for having good flowers. In order to have them in flower about April or May, the seed should be sown the first or second week in August in pans, using a compost of equal parts loam, leaf mould, and sand. The following method I have used with never-failing success:—I use seed-pans, but ordinary pots will do equally as well; but if pots are used, they should be filled with crocks to within 3 or 4 inches of the top, then a layer of sphagnum, then fill up to the rim with the compost, spreading the surface evenly but loosely; sow the seed on this; then with a round flat board, or the bottom of a flower-pot, press the soil gently down, and water with a fine rose—no covering is necessary; then place them under a north wall and put a hand-glass over them, and in about a week or ten days the seeds will germinate. As soon as the plants are large enough to handle, prick them off into boxes or shallow pans, about 1½ inch between each plant: the soil used should be rather light, leaf mould and sand forming a predominant proportion. They should then be placed in a cold frame, and kept close and shaded for about a week; after that plenty of air should be given, but the shading should be retained during hot sunshine in the middle of the day. When they have well filled the boxes, put them into 60-sized pots; compost for this and succeeding shifts, two parts nice February loam, one part leaf mould, one part well-decomposed cowdung, and one part clean river sand. One of the principal points that must be attended to, to have good plants, is never to allow them to get too pot-bound until such time as they are in their flowering pots—eight or nine-inch pots are generally large enough for this. If they are allowed to get too pot-bound in small pots, it causes them to throw up their flowering shoots before the plant has had sufficient nourishment to attain to a good strong crown; the consequence is a weak head of bloom. I always like to see a good strong crown, with plenty of large leaves at the bottom, before they begin to throw up their flowering shoots; if this is obtained, a good head of bloom is, with proper attention, sure to follow. They should be allowed to remain in the cold frames or pits as long as there is no danger from the approach of frost, be kept close to the glass, but not to touch it, and a free circulation of air allowed to pass through them night and day. They should likewise have plenty of space to stand in, but so as not to touch one another—better grow half the quantity than have them too crowded. The same rules should be attended to when the plants are housed in the winter time. Plenty of air should be given on all favourable occasions, but avoiding cold cutting winds. The atmosphere of the house should be kept as dry and sweet as possible; and when it is necessary to use fire heat to exclude damps, it should be applied

in the morning, and allowed to go out at night, and give plenty of air all day. As a rule, the less fire that is used the better—it should never be applied but for the purpose already mentioned, and to exclude frost. They will make considerable progress during the winter time; and towards the beginning of February, if not already done, they should have their final shift. All the young suckers they throw up should be removed, as they only tend to crowd the leaves too much, and they rarely flower at the same time that the main plant does. Tying out the side shoots should likewise be attended to to make nice uniform specimens. As soon as they begin to flower they may be removed to the conservatory, and kept cool and shaded to prolong their flowering.

The same routine applies to the cuttings as to the seedling plants, except that they should be struck towards the end of August, either in pans, or else singly in small pots, and as soon as they are well rooted pot on as recommended above.

One of the most important parts of the process I have omitted to refer to, which, if neglected, farewell to all hopes of obtaining good specimens (but the same applies to all other plants as well)—viz., watering. I do not know of any special rule to lay down for watering Cinerarias that does not hold good with mostly all other plants; to do this judiciously is only learned by practice. It must be given with caution during the winter time. A pretty safe rule at all times is to let the ball get pretty dry, but not so dry as to make the leaves flag, then water well so as to soak it through. Weak liquid manure may be given once or twice a week after the plants get well rooted in their flowering pots.

Red spider and green fly are sometimes very troublesome. When the former pest gets itself established it is a pretty sure sign of bad cultivation. It is only with poor stunted plants that ever it gets much ahead. I have never seen it attack any plants that have been grown on, as described above, except where grown with other plants that had been affected. The best way to get rid of it is by dusting them over with sulphur. As soon as the latter pest makes the least appearance, the house ought to be fumigated immediately with tobacco paper.

Although I have confined the above remarks to plants to flower about April or May, it will be seen that the same general routine will do for earlier sowings. To have them in about Christmas the seed should be sown early in June. The best place to grow these in is a frame behind a north wall, where they only get the sun in the morning and evening. They like a cool moist place to grow in, and are very impatient of too much sun heat at this time of the year. The cooler they can be kept, the better will they grow. When the plants are done flowering, all the seedlings—except such as may have turned out to be first-rate varieties—should be thrown away, but those that are worth keeping should be put into a frame, and kept rather dry till such time as they have ripened their wood. Then cut them down and well water the balls, and plant them out on a shady border to throw up suckers for fresh cuttings.—R. McIntosh (in *Scottish Gardener*).

VARIEGATED PELARGONIUMS.

MR. J. R. PEARSON, of Chilwell, has been kind enough to offer some criticisms on the subject of my paper on the sporting of Pelargoniums, &c.; and as he has only seen an abstract of the paper presented to the Botanical Congress, I venture to ask if you will kindly publish, *in extenso*, the paper, of which I enclose a copy.

After Mr. Pearson has carefully read it through, he will see that he has not confined himself to the subject he commenced writing on. If he will kindly favour us with his views more fully on the subject, I shall be very glad to reply to the queries he has laid such stress on with regard to seeing and smelling the pollen, and also with regard to the effects of electricity on plants. Mr. Pearson appears to treat these matters very indifferently. Does he do so from a scientific point of view? or is it because he has not entered into the subject with sufficient minuteness to enable him to judge the effect produced by electricity on plants whilst they are undergoing the process of fertilisation?—J. WILLS.

[ON THE SPORTING OF PELARGONIUMS AND OTHER PLANTS.]

BY J. WILLS, HUNTSBOYDE GARDENS, BURNLEY.

THIS is a subject pregnant with a vast amount of interest to many who have watched this curious phenomenon in plants year after year. None, I believe, has as yet been able to fathom this wonderful freak

of Nature, and any facts bearing on this extraordinary phenomenon would no doubt have a tendency in some slight degree to clear away some small portion of the mysteries that surround it. It is one of the wonderful provisions of Nature, to man almost unaccountable—a provision, nevertheless, by which many curious forms of plants are produced which could not be obtained in any other way.

I have for many years watched the growth and development of plants from seed with great interest, and the producing of new forms has been to me a never-failing source of pleasure. I will, therefore, describe some of these curious phenomena, as witnessed by me; at the same time I do not wish it to be understood that the opinions I may have formed thereon are correct, my principal object being to open up the subject, so that it may be brought under the notice of others more competent to deal with it.

The tendency to sport in the Pelargonium is highly developed in the following kinds—namely, Flower of the Day, Brilliant, and, lastly, Mrs. Pollock. The former was distributed to the public some fourteen or fifteen years ago by the Messrs. J. & C. Lee, and from the very first year of its appearance up to the present time, I have noticed green sports frequently breaking out from it. This goes to prove that the variety called Flower of the Day was originally a sport, and was not produced direct from seed, and has a tendency to prove what I have before stated, to the effect that the more delicate kinds of variegated plants cannot be perpetuated by seeds, but must be increased by propagating the sports as they occur. This constant habit of sporting in the plant above mentioned shows, in my opinion, that the original parent was a green variety, probably *Cerise Unique*. The same propensity to sport is often seen in Brilliant; and, lastly, Mrs. Pollock will often produce sports of a dark green colour, with a deep bronze zone, showing that it was originally only a common plain Horseshoe kind: but here, if I am wrong in the opinion I have formed, Mr. Gieves, with whom this most valuable plant originated, will no doubt correct me.

Having mentioned three kinds of Pelargonium that are very much given to sporting, I will now state what I think may be considered one of the causes which bring this curious phenomenon about.

Three years ago some Pelargonium plants were placed in a little house used for hybridising purposes. This house was properly constructed, and placed in a position where it was not fully exposed to the direct rays of the sun, and where it had the advantage, when necessary, of the heat from a fire at the back of a wall, which formed the back of the house. My object in placing the house in this aspect was to obviate the necessity for giving air as much as possible whilst the plants were undergoing the process of fertilisation, and every care was taken to prevent any distribution of pollen in the house; but after all my care, I found, during the following spring, after the seeds were sown and had in due course produced plants, that some advance agency had been at work, and that I must have overlooked or neglected some important point, for the greater portion of the plants had come quite contrary to what I had anticipated; for instead of being, as I expected they would have been from the parents used, beautifully variegated, the majority of them produced plants with green or dark zoned foliage, with here and there a sport breaking out from the side of the stem. On looking about for the cause, I came to the conclusion that the small perforated zinc ventilators, which were put in different parts of the house for admitting air and excluding all kinds of insects, had not been covered over so as to prevent a current of air from passing in whilst the work of fertilisation was going on, and that pollen from some other plants that were standing near must have been dispersed by the air, and that particles of it must have come in contact with the flowers just at the time I had been fertilising them. This struck me as being the probable cause of the seedling plants sporting so constantly as they did. The following year, for the purpose of testing the truth of this idea, I subjected the same plants to precisely the same treatment, and was sure the house was very much charged with pollen at the time I fertilised the plants, for a strong breeze was blowing at the time, and there was a good deal of ripe pollen on other plants standing in the vicinity of those I had been operating on; and as soon as the seeds had germinated and the plants were sufficiently developed, it was evident that the same phenomena had occurred again. The same thing has occurred again this year, in precisely the same way, and under the same conditions; whilst of plants of the same kinds that had been fertilised, and of which every care had been taken to prevent any pollen coming in contact with them after they had been fertilised, none produced plants in accordance with the parents used, and no sports in any instance have occurred.

One of the plants operated on was a sport I obtained from Mrs. Pollock, and referred to in a previous letter, labelled No. 1. The plant, No. 3, referred to in the same letter, is the produce of a plant that had been subjected to the influence of the mixed pollen.

The above facts have led me to the conclusion that a plant, if mixed pollen be used in fertilising it, will produce sports, more or less, as the case may be, and according to the state of the air at the time fertilisation is taking place. If the air is very much charged with electricity, there will be a greater per-centage of plants with a tendency to sport; but if there be little or no electricity at the time, seedlings like the female parent will predominate.

With regard to the production of variegated plants, my opinion is that the more delicate kinds are not perpetuated from seed, but by

propagating the sports. The small seedling plants of almost every kind of variegated plant are so extremely delicate in texture, that they perish in a few days after the seeds have germinated. I have noticed this in thousands of instances with small seedling variegated *Palmæras*; none of these, or any other small seedling variegated plants, have any of the primary colours into which they may be light from the sun may be decomposed: hence their quick decay.

It frequently happens that one side of the seedling plant will come variegated, whilst the opposite part will be quite green, and in most instances the variegation breaks out in that part of the stem of the plant just at or a little above the position of the seed leaves. If the variegated portion of the plant is not too delicate, I have found by pinching the green part gradually away, the variegated portion will predominate as the plant grows, and in a short time will assume the mastery over the green portion. This operation, however, must be performed very gradually, by pinching or cutting away portions of the green leaves by degrees; the plant may then be perpetuated, and the work of propagation may be commenced as soon as the plant has sufficient strength to bear decapitating.

To further illustrate the difficulty of perpetuating variegated plants from seed, I may mention that three years ago I found a plant of the common Groundsel (*Senecio vulgaris*), beautifully variegated. I at once took means to prevent the birds from taking the seeds, and the plant from suffering any injury. I also frequently watched, so that I might secure all the seed, thinking I should be able to perpetuate it, and by fertilising the double garden varieties with it in the following year, should be able to produce a new and very handsome variegated seedling plant; but I was doomed to disappointment. In the spring following, the seeds were sown, and tended with every care, and I believe nearly every seed grew, but not one lived more than three days after their appearance above the surface of the soil. Another variegated form appeared the same year—namely, a plant of the common Celery (*Apium graveolens*), became also beautifully variegated; the seed was carefully preserved till the following year, when it was sown, and produced plants, the leaves of which were as white as milk. These lived till they had made the second pair of leaves, when they also died. Another case was that of a variegated Verbena. The plants from this also died. I could name many other instances which have come under my notice, but, I think, the above will be deemed sufficient for my present purpose.

I will now describe my experience with another class of plants that I have watched very minutely for many years past, to show its extraordinary sportive character, not in the foliage, but in the flower.

The Verbena has been long and deservedly looked upon as one of the most useful plants in cultivation for flower-garden decoration. The plant being an especial favorite with me, I have for many years been trying a series of experiments in cross-breeding and hybridising it, and four years ago I succeeded in producing a hybrid—the variety now known by the name of Velvet Cushion. This was, I believe, the first hybrid Verbena ever produced. It was obtained by crossing the old Verbena venosa with the garden varieties. For two years I could not get any seed from the plant; but other garden varieties that had been fertilised with the pollen from Velvet Cushion seeded very freely, and produced from 10 to 15 per cent. of plants of a similar suffrutescent habit, with flowers of the same shape and substance, and of various shades of colour. Last year, for the first time, I gathered seeds from plants of Velvet Cushion growing in the open ground. There were other plants of the ordinary kinds of Verbena, such as Purple King, &c., growing near them. These seeds have produced but very few of the Cushion varieties. Some are exactly like Purple King both in habit and colour, the only difference at present perceptible is the elongation of the tube; some have produced scarlet flowers, others plum, pink, and, in fact, nearly every shade of colour to be found in the Verbena. This I attribute to the *Macroglossa stellatarum*, which was very plentiful last summer. It seemed particularly fond of hovering over and sipping the sweets from Velvet Cushion. I have frequently seen as many as from ten to fifteen at one time on a small bed.

Plants of Velvet Cushion, carefully fertilised, have this spring produced some extraordinary forms, some with flowers of immense size, others with small neat habits and liliputian flowers. These are from Velvet Cushion fertilised with the pollen of Maonetti Princess Victoria, a most valuable plant for bedding purposes, which I obtained, two years ago, by crossing Velvet Cushion with the pollen of Maonetti L'Impératrice Elizabeth. The beautiful Scarlet Cushion was produced at the same time by crossing Velvet Cushion with the pollen of Foxhunter. Velvet Cushion has produced more than fifteen distinct forms of the Verbena this season, of an intermediate section between the Cushion varieties and the Maonettis. Specimens of most of them I hope shortly to place before the Floral Committee of the Royal Horticultural Society. Then, again, the plants of the common kinds have produced the most out-of-the-way shades of colour, different from those which they have ever done before with me.

The produce of some crimson flowers have been shades of blue, violet, mauve, pink, rose, lilac, purple, &c. One plant in particular has produced almost every known shade of colour. This was a beautiful striped variety I raised last year, and as it was a flower of great promise, I fertilised it with pollen from a variety of the best flowers I had. Three of the flowers on each truss were fertilised with the same kind of pollen, and care was taken that a clean brush was used for

every sort of pollen. My idea was, that it would produce striped flowers in great abundance; but in this I have been deceived, for not a single striped flower has it produced, whilst flowers of the other varieties, fertilised with the pollen of the striped one, have produced many very fine stripes.

There is no plant I ever heard of so sportive and changeable in the character of its flowers, nor any plant I ever knew so capable of undergoing transformations as the Verbena. One of the most extraordinary instances is the following:—A flower of the Princess Victoria (Maonetti) was fertilised with the pollen taken from Scarlet Cushion, with the view of producing a scarlet Maonetti, instead of which it has produced a plant with foliage very similar to Purple King, and a flower as large as Foxhunter, and nearly of the same colour.

Having given a true statement of these curious phenomena, I must now bring my paper to a close, hoping that the subject may be resumed by some one who has had longer experience, and who may have more minutely followed up a similar series of cross-breeding than I could do, having so many other varied duties to perform in connection with the garden. This also must be my apology for any defects in this paper, and for the hurried manner in which it has been written.]

HORTICULTURAL ENTERPRISE IN THE UNITED STATES AND CANADA.

No one can even glance through the columns of the rural journals published in the United States without being struck with the evidence they furnish as to the activity of mind and business energy which are being put forth in the department of horticulture. Floral novelties, new fruit seedlings or hybrids, ornamental shrubs, for which distant parts of the earth have been ransacked, rare seeds, and choice bulbs never before heard of, are constantly pressing into notice; and while, of course, many of them are mere pretenders to excellence, and trumpeted forth for money-making purposes, it cannot be gainsayed that we have obtained some very valuable horticultural acquisitions from our neighbours across the lines. In Strawberries and Grapes alone American horticulturists have greatly distinguished themselves. Of the former, it is only necessary to name Wilson's Albany Seedling, a treasure of untold value to the gardeners, professional and amateur, of this continent. A little acid, it has, nevertheless, qualities which place it immeasurably in advance of all competitors thus far. Yet this magnificent berry will doubtless, ere long, be surpassed by some of the seedlings which enthusiastic horticulturists are testing in their grounds. Of Grapes, we have several most valuable varieties. The originator of the Concord, Mr. Bull, of Concord, Mass., has lived to see his Vine planted by millions from Maine to Minnesota. Dr. Grant, of New York, and Mr. Rogers, of Salem, Mass., have also achieved important triumphs in Grape seedlings and hybrids. The Grape for America has, however, yet to be produced—if, indeed, our fellow-countryman, Mr. Arnold, of Paris, has not already accomplished what so many have long been aiming at—the combination of the luscious flavour of a glass-grown Grape with the hardiness of an out-door Vine. Hon. M. P. Wilder, of Boston, Mass.—very high authority—in a letter that we have seen, expresses the opinion that Mr. Arnold's will prove the Grape of this continent, and that posterity will "cherish the name and bless the memory" of its originator. To all which we heartily respond, "So may it be!" When it is considered that thousands of seedlings must be grown and tested ere a single variety worth anything is obtained, and also that the process of hybridising is a very slow and difficult one, some idea will be formed of the amount of thought and labour necessary to the production of any real acquisition to our horticultural treasures. While our American neighbours are busily engaged in the search for novelties and improvements in the regions of floral and shrub beauty, they are especially diligent in the realm of fruit. They have produced Apples, Pears, Peaches, Plums, and Cherries that leave nothing further to be desired. In the department of small fruits they have been very assiduous, and have succeeded in obtaining a Gooseberry that defies the mildew, that bane of imported Gooseberries; some valuable Blackberries, the Rochelle and Kittatinny, the former a great success in the Midland States, and the latter hardy enough for the most northerly situations. It is questionable if any country be better supplied with fruit in variety and succession than is the United States at the present time.

These brilliant successes would not have been achieved but for the existence, in pretty considerable development, of horticultural tastes among the people. There has been a healthy demand for everything really valuable, whether it be for ornament or use. Eminent as a practical people, the Americans

are; nevertheless, an æsthetic people. They are often extravagant in their outlays for matters of taste, ornament, and display. They cultivate the beautiful in dress, furniture, and the surroundings of their homes. Were there not a demand for the expensive novelties we see continually advertised in their agricultural and horticultural journals, they would not be offered. A seed of the *Victoria regia* for one dollar—a fine Lily bulb newly from Japan for eight dollars,—a Yeddo Grape Vine, also from Japan, for ten dollars, a new *Gladiolus* bulb or Dahlia tuber at three or five dollars, a new species of Spruce seed three dollars per ounce, are specimens of advertisements by no means rarely to be found in the journals referred to. The large scale on which some things are raised and sold cannot fail to attract attention. Grape cuttings are sold by the million, Cranberry vines by the barrel, and a nursery of two, or three hundred acres in extent is not uncommon. As for the sale of such common nursery articles as Apple, Pear, Plum, and Cherry trees, they are past enumeration.

Is the rage for these things excessive and reprehensible? We are not prepared to say that it is. Of all extravagance that can possibly be committed, surely there is none so excusable as that which is expended on the beautiful and useful things of nature. Condemn, if you please, costly dressing, flashy jewellery, splendid equipage, expensive cookery, and lavish architecture, but respect the eagerness to collect and plant about one's house the lovely and valuable creations of God,—the flowers and fruits that declare His glory and show forth His handiwork.

We, in Canada, need no checking in this direction, but rather urging. We have thousands of rural homes that have not a beautiful thing in all their surroundings, except the landscape and the sky. Many a farm has no fruit on it except a few Strawberries on the edge of the woods, a straggling patch or two of Raspberries in the fence corners, or maybe a few Huckleberry bushes in some neglected spot. Our nurserymen are very poorly encouraged. Any travelling irresponsible peddler of fruit trees is patronised before well-known persons who have a stake in the country and a character to maintain; and we have plenty of farmers who have yet to buy and plant their first fruit tree. Matters are improving somewhat, but we are very far behindhand in all matters of taste and refinement. There are, we are glad to know, many attractive country homes in various parts of Canada, and some neighbourhoods are fast acquiring a reputation for the culture of fruits, flowers, and rural beauty in general. But these are exceptions. We hope they will, ere long, become the rule. For natural advantages, we have a land that cannot be surpassed. Let us enrich and adorn it with fruits and flowers, with shrubs and trees. Much may be done at but little cost. The taste once exercised will improve, and busying itself to multiply the delights of home, will enjoy them with an ever-increasing relish.—(*Canada Farmer.*)

GRAFTING ROSES.

ALTHOUGH a little behindhand, perhaps, at least as regards season, it may be interesting to some of your readers to know my system of grafting Roses. The process is so very simple, that it may be described in two or three words. I merely bind with a piece of indian-rubber band, and fasten the end with a bit of thread, that done the operation is complete. This is not only simple, but it is a cleanly and most expeditious method of grafting. I do not hesitate to say that an expert hand could work off two or three for one he could do in the usual way. There can be no mistake as to its being a successful mode of grafting, which the following facts, I think, will show.

About the beginning of March I selected a few of the best shoots I could find of two or three new varieties which I had received from the nursery about a month or so before. They had been knocked about a good deal, and even the best of the shoots looked anything but promising. Having, however, a few Manetti stocks by me, I thought I would give them a trial. I therefore grafted them in the way above mentioned, and potted them in four-inch pots, after which I placed them in a frame having a little bottom heat. They soon began to show signs of life, and towards the end of April they were fit for planting out. One or two of them are now nearly as large as the originals, and will soon be in flower. I grafted them in different ways—viz., whip with tongue, plain splice, and cleft, and with each was equally successful.

This is not all. On the 4th of May I had a small cutting

given me of a variety I had not grown. The plant from which it was taken had been shifted late and had not as yet made any growth. I put the cutting into my pocket with the full intention of placing some damp moss round it as soon as I left the garden, as I was at the time a long way from home; but, notwithstanding my good intention, I forgot all about it until I reached home in the following evening at a late hour. When I drew it from my pocket it had very much the appearance of having been baked in an oven, it was so completely shrivelled up. Thinking there might be a probability of its reviving, I put it into a tumbler with a little water and allowed it to remain until the Monday morning, when it again appeared quite plump and fresh. I had certainly little or no hope of being able to make anything of it, but as an experiment it was worth trying, I thought. I therefore looked out a suitable stock, and grafted it at about 6 inches from the ground in the way before described, and it is now also growing nicely. The stock which I used on this occasion is the same as that mentioned by me about two or three years ago, and I take this opportunity of stating, that in some respects it is superior to the Manetti; it is eligible for working above ground, which the Manetti is not; it also produces a more vigorous growth. Like the Manetti it gives no trouble whatever with suckers, will grow almost anywhere, and live through our severest winters.

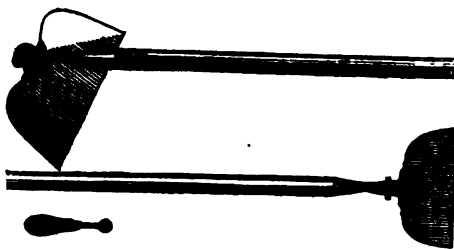
I have been a little particular in relating the above circumstance, in order to show that a nice-headed standard is obtainable in one season instead of two, which, in the ordinary way, is at present required, and that with very little trouble, for the operation can be performed almost as quickly as that of budding.

My system may be objected to on the ground of expense, but I think from the price at which rings are at present sold, indian-rubber grafting bands could be produced at a very trifling cost; and of this I feel certain, that if once introduced we would one and all, professional and amateur, for the smaller kinds of plants at all events, wash our hands and say good-bye to pitch and plaster.

I am here reminded of another sort of plaster—viz., that recommended for budding by "AMATEUR," at page 8. I have not yet given it a trial, not having any of it by me, but I have tried many other things, and find that nothing answers the purpose so well as narrow tape.

The use of red lead mentioned at page 451 of the last volume is not new; it appeared in the columns of this Journal, if I mistake not, about three or four years ago. I have used it regularly since, and I take this opportunity of testifying to its efficacy as a preservative for sown seeds.—LOCK NESS.

ADJUSTABLE HOE.



AMONG the advantages possessed over the common hoe are mentioned the following:—1st, Time is saved in selecting a hoe with the blade to hang rightly; this blade being adjustable, can be set at any angle, with the handle to suit the height of the person using it; 2nd, This can be easily and quickly done by a little wrench, found neatly and conveniently screwed into the end of the handle; also, the handle can be shortened or lengthened 2½ inches when desirable, the joint being secured by teeth which are out of sight when the hoe is in working position, estimated to be as strong as any part of the hoe. 3rd, The inner side of the blade may be ground as the outer side, and when it is worn out a new one can be placed in the same handle at a small expense; also, different sized and shaped blades may be obtained. 4th, By setting the blade at a proper angle the hoe becomes converted into a light shovel or spade, and becomes useful for cutting turf-borders; also,

by setting it at a right angle it becomes useful for lifting the dirt from the bottom of post holes. 5th, It is conveniently packed for transportation.

ORCHARD-HOUSE CULTURE.

SOME few weeks since a neighbour pointed out to me an article on orchard-house culture, and, if I remember correctly, advising those who thought of erecting small orchard-houses not to do so. In common with some neighbours I have many small orchard-houses, which have now been in work some ten or twelve years. I call them small because they are low, being 7 feet high in the centre, 4 feet at the sides, and from 10 to 12 and 14 feet wide. These houses are full of Peach, Nectarine, and Apricot trees, all in full health and vigour; I may add, as usual, for they have never yet failed in doing well. The only precaution necessary to ensure a crop of fruit is to place a pan of charcoal in each house when the trees are in full bloom, or while the fruit is young, if our spring frosts are severe, as such low structures are not spring-frost-proof like houses with lofty roofs.

I am particularly struck this season by one of these low houses full of Apricot trees, three years old, all pyramids, in 11-inch pots, in which they have been two seasons. They have been pinched-in closely during the summer, and all are perfect in shape.

Every tree—there are upwards of 150—is studded with fine fruit, from eight to twelve on each, to which number they have been thinned. In the whole of my long experience I have never seen anything in fruit culture more beautiful than this assemblage of pyramidal Apricot trees. Their management has been rather peculiar, but most simple. I have, in a paper, which will be published in the "Proceedings" of the International Botanical Congress, given a full account of the Apricot culture here, which will, I trust, one day be in your columns; I shall, therefore, forbear troubling you with it.

With regard to the management of orchard-house trees, about which I read so many peculiar opinions, it is so simple, so invariably successful here, that I cannot help feeling my eyes open widely with surprise when I read about failures. It is an oft-told tale, but repetition will, I hope, be pardoned by your readers. I can only state that any amateur who will call into exercise gardening sense will succeed. We will make the orchard-house year to commence about the end of October, it may be extended to the middle of November.

1. The trees of all kinds, except Apricots, should be top-dressed by taking out the soil and the mass of inert fibrous roots to 4 and 5 inches in depth; the former for 13 and 15-inch pots, the latter for 18-inch pots. In removing the mass of earth and fibrous roots, the rootlets, from the size of a bent of grass upwards, should be left. The top-dressing, which should be tender tenacious loam and rotten manure, should be rammed down with a stout blunt stick, and the compost be raised slightly above the rim of the pot, so as to form a concave surface, the tree in the centre. A week after the top-dressing, the custom here is to give about two gallons of water to each tree. Some refuse hay is placed on the surface and around the pot to protect the roots from frost, and all is safe for the winter. In muggy, wet weather the house may be open night and day, closing it against storms of wind; in frosty weather it may be closed.

2. Early in March, when the buds begin to swell, the trees should have water, say two or three quarts, or a gallon, according to the size of the pot and dryness of the earth in the pots; this should be given once a-week, or so, according to the state of the weather.

3. About the end of May, when the fruit is swelling, place on the soil of the pot a rich surface-dressing. This may be the (here) never-failing malt dust and horse-droppings—the latter gathered from the roads—saturated with liquid manure, but not allowed to ferment. This dressing should be above the rim of the pot, being made into the shape of a circular bolster, something like a life-preserver. The concavity retains water, which at once makes its way to the stem of the tree in the centre, and then radiates to all the roots. Horse-droppings alone, or thoroughly decomposed manure, chopped and saturated with liquid manure, make a good surface-dressing. No lumps of raw farmyard dung will do.

4. In June, and again in July, the surface-dressing must be renewed, as it will have subsided.

5. The shoots of Peach and Nectarine trees should be

pinched-in to two and three full-sized leaves almost daily till the end of July. If the house is large, and large trees are wished for, they may be pinched in to five and six full-sized leaves.

6. The trees will be kept in full health by syringing them every morning during June, July, and August, between 7 and 8, and immediately opening all the ventilators, and again syringing them between 5 and 6 in the evening, closing the ventilators. The latter evening operation should be discontinued in cool, rainy weather. In sultry weather in August the ventilators should be open night and day. The flavour of the fruit is improved by this practice.

7. Aphides of all kinds are killed with the most simple of all decoctions—4 ozs. of quassia chips boiled ten minutes in a gallon of water, to which, while cooling, 4 ozs. of soft soap are added, and mixed. None of those offensive paints, such as clay, sulphur, &c., are used; they hide the buds and disfigure the trees. In winter, when the brown Peach aphid makes its appearance on the young shoots of Peach trees, the insects are killed by the above, and in spring the green aphid is destroyed by the same.

By these few simple rules, which have been adhered to here for many years, orchard-house trees have been kept in vigorous health and fruitfulness. Why should not every lover of fruit-tree culture do likewise? I must add that my pots stand on a surface made solid by constant use; the trees make but very few fibres below, and do not require lifting to break off the roots; the surface-dressing seems to be the great attraction. None of my numerous houses has any roof ventilation; it leads to expense, and is not required.

If any of your readers wish to verify my statements they have only to make their way to the Harlow Station, Great Eastern Railway, whence it is a pleasant walk to the Sawbridge-worth Nurseries.—T. R.

A ROSARIAN'S PROTEST.

I HAVE a grievance. I used to know the faces of all my friends at a moment's glance, but times are sadly changed. I suppose I am growing old and my sight is failing; and that is the reason why I cannot tell, when I am at a public assembly, whether I am in the presence of Monsieur le Comte de Nanteuil or the Hero of Vitry, or who is presenting me Tea—Madame Bravy or Miss Rosea Alba. As to recollecting the names of all the generals, foreigners, and great men, with their decorations and their scarlet, crimson, and red coats, or telling them one from another when apart—that I find perfectly impossible, though I have been moving in the very first circles for the last twenty years, and flattered myself I knew every one worth knowing.

Another matter is that I do not approve of the ladies' manners or their style of dress. They stand staring you out of countenance with their great eyes. Mlle. Bonnaire complained that she was completely elbowed out of the assembly at Kensington the other day by a lot of coarse individuals who had no refinement about them. As for me, I have nearly determined to retire from public society, and to have my own private coterie instead, assembling there only the most aristocratic, elegant, and distinguished of the upper ten thousand.

Perhaps another day I may tell you who my company are. In the meantime I must request you to treat this communication as strictly—SUS ROSA.

THE APPLICATION OF MANURE.

THE amount of manure at disposal is generally a question of no little significance to the gardener, and I think we may safely affirm that the manner in which it is applied ought to be a consideration, second only to that of its possession. Although we live in the days of high farming and gardening, we have frequent evidence that not a little ignorance exists on this point, not in the field alone, but in the garden also. People reason falsely upon this, as upon many other things, thinking that because a little is beneficial, a great deal must be even more so. Manure is often applied in a way in which not only a great waste of the material itself is entailed, but in which it exercises a positively injurious action upon the very objects it was intended to benefit. It is a custom with some gardeners—not so frequent now as in times past perhaps—when planting some sorts of trees and shrubs, to bury a large quantity of raw

manure directly beneath, and in contact with the roots of the plants, thinking thereby to induce a luxuriant and vigorous growth; but nothing could be more opposed to reason, and we question very much if the advocates of such a system of manuring could give a rational explanation of their practice, or make it appear otherwise than contrary to the principles of good gardening. I refer more particularly to the system as applied to hardwooded plants. To certain classes of vegetables, such as Celery and others of a gross-feeding habit, manure, even in an unadulterated state, may be beneficial; but to such things as Gooseberries, Raspberries, or Roses, that delight in a cool substantial soil, such a practice cannot be advisable. Nevertheless, the custom prevails, and has even been recommended by some, but recent experience, on our own account, would certainly teach us to dispense with such advice.

On entering my present situation here, about fifteen months ago, one thing that particularly struck my observation in the kitchen garden was the peculiarly stunted appearance of a quarter of young Gooseberries. On examining them I found that little or no growth had been made during the season. What growth there was had evidently been made late in summer or autumn, but was at the time I examined them (November) quite dead. As far as I could ascertain, they had been planted about three years, and I could clearly perceive that from the time they had been first pruned and planted, no progress whatever had been made. I further learned that the ground had been previously prepared for Asparagus, which had failed, and that a large barrowful of old Mushroom dung had been buried beneath each Gooseberry plant at planting. For reasons which it is unnecessary to explain, it was deemed expedient to let them stand over till the following autumn, but not anticipating great results, and unwilling to lose the ground, a row of Sea-kale was sown between the rows of Gooseberries in spring, which grew amazingly, the plants averaging from 5½ to 6 feet across from point to point of the leaves. The Gooseberries, however, made no growth at all, with the exception of a few unhealthy leaves, until late in August and September, when a number of them made a few weak shoots that would not have ripened properly, and would most likely have perished in winter as formerly, had the plants been allowed to remain. I took up several, and on examining them found the roots white with fungi, covering the stem up to the surface of the ground. The roots in nearly every case were quite dead at the extremities and for some way up; when touched they fell away in the hand—soft and brittle. From the living portion of them, near the stem, a number of young roots were just pushing, which accounted for their late growth, and which would certainly have perished like the others, thereby depriving the plants of the power to start into growth the following season until late, as they were now doing. The soil about the roots was thoroughly run with spawn, which had the true Mushroom smell, and the old Mushroom dung could be turned out in solid lumps, complete masses of spawn. Later in autumn we took the whole of the plants up; and, although anxious to be economical, we could select only about three dozen fit to plant again, out of about ten dozen; the remainder had to be made up from the nursery.

We have had similar experience with Roses. It was decided to make some alteration in a part of the rosery here, as much as anything else for the sake of the Roses, which were in a very unsatisfactory state. They had been taken up and replanted some three or four years ago, and on taking them up this autumn the greater part of them were in a plight quite similar to the Gooseberries, though not so bad. It was evident that a large proportion of rough half-decayed leaf mould had been put to their roots when planted, for in lifting them it turned out in large fungoid flakes. The roots were all more or less affected, some very much; so, had time permitted, I would have washed the whole of them; but wishing to take the advantage of the mild weather in November, I had to content myself with trenching the border over deeply, and mixing some well-rotted manure with the soil, adding a quantity of fresh loam to the roots of the plants as I went on. Except in the case of some Chinas, in no instance could I discover that they had benefited by the leaf mould in the form it had been applied. Most of the plants seemed struggling for existence; whilst some of the strong-growing varieties had pushed through into the stiff loamy subsoil beneath, in some cases to a great distance. I ought to state that the natural soil here is well adapted for Roses—as indicated by their luxuriant growth and abundant bloom in other parts of the garden—being a strong loam

upon a cool dry bottom. It is certain that the character and mode of applying the manure had a good deal to do with the evil. If well-rotted cowdung had been used instead it is not likely there would have been any evil effects, from fungi at least; but I think it will be admitted that, to apply manure of any description in the manner described is not advisable. It appears to me to be like feeding a human being upon butcher's meat alone. The parallel is only a fair one, and I believe the majority of people would object to such a diet. The laws that regulate the health and well-being of plants are just as nicely balanced as in the case of human beings, and cannot be violated with impunity; and to bear this in mind and act upon it is the chief secret of success.—J. BRANSON (in *Scottish Gardener*).

WORK FOR THE WEEK.

KITCHEN GARDEN.

THE weather lately has been favourable for the destruction of weeds; see that they are not allowed to seed amongst Potatoes or Asparagus, where, from the luxuriance that surrounds them, they are apt to escape detection till they have shed their seeds. Attention in proper time to such a matter does not entail a tenth part of the labour that neglect will ultimately occasion. As there is every appearance of a change to rain, finish planting out Broccoli and Winter Greens as speedily as ground can be obtained, for unless the autumn should prove very favourable, those planted after this time will not attain much size. Endive, let it be planted in very rich soil. Onions, provide ground for the winter crop. Lettuce, maintain a succession, and attend to other small Salads. Parsley, see to securing a good supply for winter use, as it is always largely in demand. A good bed should be planted in some convenient place for protecting it during severe weather in winter. The soil should be of a light texture, deep, and thoroughly drained as a preventive against damp in winter. Spinach, select a piece of light open ground, and prepare it for Winter Spinach by giving a heavy dressing of manure and trenching or digging it deeply. This crop should be sown at once, and in drills in beds, allowing wide alleys so as to be able to gather the crop without treading on the ground.

FRUIT GARDEN.

The tendency to excessive luxuriance exhibited by espalier trees renders the operations of disbudding, stopping, and shortening shoots more particularly essential. The whole principle of pinching is merely this—in the first place, to pinch all young shoots not necessary for the framework of the tree; secondly, to stop those shoots which threaten to overgrow their neighbours, by which means a due equilibrium of the branches will be maintained; and, finally, having commenced a system of repression, continue it in regard to lateral shoots, which are developed by this system of stopping. While, according to the plan usually pursued, every encouragement is afforded to the powerful development of roots by the application of soil, a necessary limitation of wood destroys the balance of force between the two. Root-pruning is thus obviously suggested, and may, in the proper season, be practised with advantage. If attention has been paid to pinching the shoots according to previous directions, there will at this time probably be found on the branches which have undergone the operation a little tuft of three or four or even more lateral shoots. It is a good time now to look to the young spray; in some cases the chief shoot may be shortened back to the last lateral, allowing it to become the leader, and if that should take a development stronger than is advisable, it must again be pinched. More cases of this kind are offered by the Peach than any other fruit tree. The principle holds good with all of them. The practice above alluded to, if regularly pursued for several seasons, will yearly become less troublesome; for the tree will become accustomed to such treatment, and gradually acquire the desired habit. Keep the Vines carefully tacked in, and the laterals constantly stopped. Let the free-growing shoots of Plums be regularly laid in, as they are apt to become awkward in training if left too long. Strawberry-runners should be procured from new plantations without delay. Those who cannot spare ground for a new plantation may prick them out in prepared beds about 6 inches apart, and remove them with balls in October or in the early part of February.

FLOWER GARDEN.

Plants of a weakly habit of growth may be assisted in dry weather by an occasional watering with manure water, but for those that grow too strongly there is no help except thinning

out and pegging down the shoots. In shortening back shoots that incline to extend beyond the edgings of the beds, avoid the least appearance of formality by thinning out the under shoots and keeping all parts of the bed of equal depth and thickness, or allowing the plants to die away, as it were, at the edges according to the arrangement. Climbers on walls must be attended to as they advance in growth, keeping the young shoots neatly laid in, &c. The climbing Roses will also require to be gone over occasionally for the purpose of cutting off decayed blooms; and any weakly old wood should be cut out at the same time, to allow of laying in the strong young shoots, which will bloom much finer next season than the old wood would do. As the seed-pods of *Pansies* ripen they should be gathered and dried in a shady place. *Pinks* planted out in store-beds will only require attention as far as regards keeping them clean. If, unfortunately, wireworms should make an attack upon them, it will be advisable to place pieces of Potato between the rows, immediately below the surface of the soil, and in the vicinity of those where the last were destroyed. Thin out *Dahlias*, particularly the branches of those varieties which usually flower weakly, and remove all buds which exhibit malformations; tie the lateral branches to the side sticks, going over the stock frequently. A small amount of attention now will often save a great amount of damage.

GREENHOUSE AND CONSERVATORY.

Specimens that have matured their season's growth should now be more sparingly supplied with water at the root in order to promote the ripening of the wood. Orange trees and other plants known to be liable to attacks of red spider must be frequently examined for this pest, and well washed with the engine immediately it is perceived, taking care not to bruise or injure the leaves, and placing the affected plants so that every leaf may be reached. Go over the twiners frequently, and keep the shoots nicely regulated, cutting them out where necessary to prevent their being too thick, and shortening any that hang down so low as to interfere with other things.

STOVE.

As plants should now or soon be ripening their young wood, they want as much light and moderate sunshine as possible. In the case of *Orchids* this is especially necessary, in order that the young leaves and pseudo-bulbs may be thoroughly matured. Plants in this condition, or nearly so, should be removed forthwith to a cool house, and care taken not to induce them at present to push again, as a fresh start would interfere with their flowering next year. *Dendrobium nobile* and others of that class sufficiently advanced in growth should also be moved to a house where they could have a moderate and steady temperature, abundance of air, and little water till their stems are ripe and their flower-buds formed. Those *Orchids* which are still in a growing state should be placed in the most favourable positions, and encouraged by a nice growing temperature while the weather continues favourable for ripening and hardening any growths which they may yet make. Afterwards let them be put gradually to rest.

COLD PIT.

The stock here will probably require re-arrangement at this time, as some of the specimens, having completed their season's growth, will be better in a shady situation out of doors, and their removal will admit of giving more space to those left. Young growing stock, and late-flowering plants that have yet to make their season's growth, should receive the most careful attention, as, if well treated, they will make rapid and vigorous growth at this season, and nothing in the way of good soil, careful potting, or proper accommodation will compensate for the want of this. Indeed, there is no possibility of securing free growth from hardwooded plants in bright hot weather, except by moderate shading, and maintaining a moist atmosphere by sprinkling the plants overhead morning and evening; and air must be given liberally to keep the wood strong, avoiding as much as possible exposure to drying winds. Any of the specimens which require more pot room should be shifted as soon as possible, taking care to have the ball moist, and keeping them rather close and the atmosphere moister than usual for a fortnight after potting. Let the young shoots be tied before they begin to fall about and crowd and injure each other. Cut down *Pelargoniums* as soon as the wood is properly hardened, and keep them very sparingly supplied with water at the root until they start into growth, but sprinkle them overhead frequently, which will cause them to break more strongly. Continue to pot *Cinerarias* as strong suckers can be obtained, placing them in a close part of the cold frame

until they become established in their pots; but avoid placing them in heat, where they speedily become a prey to insects and mildew, and never do any good.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Much the same as last week—loosening the soil, fresh planting vegetables, staking late Peas, and watering Peas, Cauli-flowers, Coleworts, Celery, &c. The continued drought and heat seem to be telling a little on the Onions, causing some of the plants to look mildewed. Notted young plants and seed-beds of Lettuces, Cauliflower, Radishes, &c., to keep the birds from them. Sowed seeds of Spinach. That which was sown before the beating rains does not seem to come away kindly; and Spinach, independently of its use in the kitchen, is excellent for packing with other vegetables, to keep them firm, when they are sent to a distance.

FRUIT GARDEN.

Proceeded with thinning and shortening the shoots of fruit trees, whether against walls, or on low standards and pyramids. As a general rule, the sooner the shoots are shortened at the points the better, as the sap and vigour are thrown more backward to swell the buds nearer the base of the shoot. It is a good plan to do this with Apples, Pears, Plums, &c., where the shoots are about 6 inches long, merely nipping out the points, and leaving a few to remain unstopped to carry on the flow of sap. In most places the work must be rather roughly done, especially if the stopping has been too long neglected. Then breaking off the shoots over the knife, leaving them from 3 to 6 inches long according to circumstances, is a very quick and expeditious plan, and until the next month it is as well even then to leave a few shoots unstopped. By nipping out early the points of the best-placed shoots, and taking others away within a few buds of their base, more light and air play on the shoots stopped; and in Apples, Pears, and Plums, some fine fruit-buds are thus often obtained on the base of the shoot of the present summer's growth, which would have been nothing but wood-buds if the shoots had been left unstopped.

It is best every way to do most of the necessary pruning in summer instead of winter. The summer pruning regulates the powers of the plants, and directs these powers into the most useful channels, so as to give fruit instead of a superabundance of wood-buds. Every shortening and limitation of the number of shoots now, and at an earlier period, tells upon the root-action, and the diminished vigour at the roots is followed again by a better-ripened condition of the wood. Only make sure that the roots shall not penetrate too deeply into unhealthy, unsuitable soil, in which the trees will be encouraged to greater expansion in growth than fruitfulness, and root-pruning may be pretty well dispensed with, if duly stopping and regulating the shoots in summer be attended to. All this summer pinching and stopping tells upon the buds of autumn and the crops of the following year. Winter pruning is only a makeshift, rendered necessary by neglect, either arising from carelessness, or, too often, from the force of circumstances. It exercises little influence on the tree for the succeeding year. Supposing that it has made too much and too vigorous growth, and we prune in never so closely in winter, the natural result will just be, from the energies stored up in the roots, another equally luxuriant crop of strong shoots in summer; and these again would so reciprocally act on the roots, that to keep up this luxuriance they would be induced to strike down so deeply in search of moisture and food, that the restoration of a fertile condition would have to be accomplished by cutting the roots, or elevating them nearer to the air and sunlight. A diminution in growth and luxuriance, the result of summer pinching and pruning, will help to keep the roots near the surface, especially when this is aided by surface-mulching, and surface-watering, and the removing of the mulching in bright weather, that the sun may act on the soil.

Hard cutting and pruning in winter are chiefly useful when it is deemed necessary to give a fresh start to the tree; and then if the roots are not too much beyond control, or in clayey, damp soil, much may be done by selecting the young shoots that push, and then nipping, shortening, and regulating them to induce them to form fruit-buds. Nice compact fruitful trees are thus often made out of those which seem to have grown beyond all control, and are either barren, or produce poor, ill-flavoured fruit. In nice young trees the thumb and finger, or

a small knife, must be used in summer instead of the saw or the chisel in winter.

Strawberry Plants.—The season of Strawberry-gathering will with us be much shorter than usual, owing to the great heat succeeding the drenching rains. Planted-out the most of those we had forced. We had filled some frames with plants which did us excellent service after we had removed most of the plants from the houses. From these we obtained some good runners. The plants, having been turned out in good stuff, became very strong when bearing, and afterwards, and though it is contrary to our usual practice, we thought we would try an experiment with them. We cut off all the leaves except a few small ones in the centre, gave the plants a good watering to encourage them to grow afresh, and when they have formed a few more squat healthy leaves we intend taking them up and potting them in large pots, being pretty fully convinced that such plants will ripen their buds earlier than those taken from runners of the present season. We have done so in a few cases with plants that had been forced in pots, and found that they usually produced very plentifully and early, but did not generally yield individually such fine fruit as was obtained from younger plants. The dry, warm weather has made the runners of some kinds come later than usual. Our favourite mode of preparing them is to layer the runners in small pots, with a stone or pebble over them to keep them in their places, and when rooted to take them up and shift into larger pots; but this season, to save time, we have taken up many runners as soon as formed, with a piece of the string attached, and at once potted them in small pots and set them where we could keep them close, and a little shaded either with glass or calico, &c., and they are rooting nicely. We did this chiefly to avoid the trouble of watering these where they were growing naturally.

Orchard-houses.—These required frequent syringing to keep them right in the hot weather. Moisture, and plenty of it where the moisture will not be stagnant, is now an important agent in assisting the swelling of the fruit and the perfecting of the wood of such trees as Cherries, from which the fruit has been gathered. Having nothing else handy we sprinkled all the ground thinly with soot, and watered well with house sewage; but we gave it to no plants in pots, as some time back, when owing to dearth of water we were obliged to use sewage water or none, some of the plants in pots suffered from it. Notwithstanding the drawbacks in the shape of economy as respects watering, we are not surprised that many people with little room so much admire the pot system. What can be more beautiful than a compact Cherry in bloom? and again, when loaded like so many ropes of Onions with its ruby fruit? and then all the care in watering, &c., seems to be forgotten. We would here make one suggestion to an "OLD GRUMBLER," and that is, as his trees become older he must not stop and pinch the shoots quite so much. When every little bit of a shoot bristles with fruit-buds, and the clusters seem larger every day, then it would be kindness to let the shoots grow for a few inches, and even that growth will keep the fruit-buds more secure, for if you keep stopping-in closely you may induce these fine clusters of buds in self-defence to elongate into wood-buds and young shoots.

Judging from our own experience we would advise all having orchard-houses to go over them regularly now, not merely for arranging the shoots, cutting-in laterals, &c., but for well thinning the fruit. The evil with most of us is that as the fruit comes so thickly, though we remove bushels of young fruit, we are apt to leave hundreds too many. The thinning is generally a serious thing in these orchard-houses, even without any help but the glass and sun heat.

We will clear the Peach-house this week, a tree of the Walburton Admirable having prolonged the gathering fully a fortnight or three weeks after the others were gathered—a matter of importance in small families. As a rule, Peach-houses ought either to be small, or, if large, should be planted with a succession of kinds, as a much greater quantity of Peaches at an earlier period than can be used is next to a loss, unless they are made a marketable commodity.

Gave a good soaking to Fig trees bearing abundantly. The fruit to be packed should be gathered at mid-day as soon as they begin to crack. Those to be used at home may hang until they are much ripper, and then they are good for those who love anything sweet and luscious. We had long been in the habit, as respects pruning and training, of letting them have a good deal of their own way, and we were farther confirmed in this by a visit to Mr. Tillyard, at Bentley Priory,

some time ago. The Fig trees were doing first-rate, but bore no marks of much pruning or training.

ORNAMENTAL DEPARTMENT.

What with the rains and the heat, lawns have been no sinecure, but have required much extra work in cutting, rolling, &c., and fresh-laid portions and turfed-down beds have been especially troublesome, as they grew much faster than the older turf near them, telling every one, if not kept down, of the changes, whilst the beauty of a lawn greatly consists in looking all of a piece. At times, when we could not overtake the cutting so as to keep all green and short, we have secured a uniform green, by switching off with the daisy knife all plants of Bents, Plantain, and other things that appeared above the green level, and a man that can sail or swing the knife above the green herbage, will go over a large space in a little time. The sun soon puts all such cuttings out of sight, and a few hours' work even on a large lawn soon makes a great difference in the appearance. True, it is a makeshift, but provided an effect is produced, people now-a-days do not examine too closely into how the effect is produced. We admire colouring in flowers, from whatever source they come. We can revel in the bright orange of the Buttercup in the meadow, and we can become quite romantic on seeing boys and girls gathering their pinafores full of the starry Daisy, as we did in the times long ago. We have stood wondering if anything would make a more charming little yellow flower-bed than the *Lotus corniculatus*, so abundant in some pastures and lawns; but then to enjoy the sense of the beautiful, in unison with our advanced ideas of taste, there must be a place for everything, and everything in its place. Just as we would consider the furniture quite suitable for a working man's cottage not exactly in character amid the surroundings of an elegant drawing-room; so the flowers that deck and beautify the meadow would do nothing but detract from the rich green of the lawn. Where the lawn is too large to be kept uniformly green, then prudence and good taste alike recommend that there should be less ambition as to extent, and more striving to keep what is attempted to be kept, in good condition. Everything that rises naturally above the green surface of a lawn so far destroys its beauty. A green level should be its only characteristic.

Hollyhocks will now want securing, and they will be benefited by frequent syringings with clear soot water, which in hot weather will keep off attacks of thrips and other insects. A good watering with manure water at the roots will also assist in producing noble spikes, if that be the object. Removing some of the side shoots will also contribute towards the attainment of this result, and these may be struck in a shady place, with or without the assistance of hand-glasses. This is the best plan for securing huge single spikes, but not in our opinion showing off the majestic plant to advantage. It never looks better than when towering in grandeur, with numbers of subsidiary flower-shoots coming from the main stem, and attending the main central spike; but that would not do for a flower show.

Dahlias growing freely will need staking. We like best growing to a single stem, securing to a single stake, and fastening up the subsidiary shoots, doing it so loosely that little of the stake or tying is to be seen. These, too, if the weather do not change, will need watering at the root and overhead. A good syringing in an evening with clear soot water is one of the best means of keeping away the attacks of thrips, which, if once they obtain a lodging, will spoil the blooms much for that season.

Carnations and *Picotees* grown in pots or beds will now want securing, well watering, syringing, and cleaning; and if perfection is desired the flower-buds should be tied to prevent the calyx bursting at the bottom. For out-of-door work no stakes are comparable to a wire twisted in corkscrew fashion. Instead of tying, all that is necessary is to place the stems in the twists, and they will be held securely. Fine masses of the commoner kinds are grand in flower gardens, where they can be free from the devastations of rabbits and hares, and grass mice, which, especially in winter, will make sad work with the best collections.

Pinks will now be in a good condition for striking. The taking off and making the cuttings used to be a nice job for the shed. The days of progress are now on us, and we take off the cutting, technically piping, and make it with one sharp pull, taking hold of the shoot to steady it with the left hand, catching the cutting at the second joint with the right hand, and giving a brisk pull, when it comes out of the socket of the

joint, with a cleaner base in general than any the sharpest knife could give it. These are at once inserted in sandy soil under a hand-light, shaded at first from the sun. Sometimes a little film may be left at the base of the cutting thus made, which may be removed with a sharp knife, but that will seldom be necessary. This mode has also the advantage of not spoiling much the appearance of the old plants, nor yet of injuring them much for dense flowering in the following season. The young plants struck now will produce the best flowers next season, but not in quantity like older ones.

Cinerarias.—Pricked off and potted off seedlings, and turned out a lot of plants done flowering after cutting them down, in order to obtain strong rooted suckers from them by-and-by. These will far surpass for blooming and health old plants grown on by any mode.

Calceolarias.—Now is a good time for sowing herbaceous and semi-herbaceous kinds for next season's blooming. The best mode is as follows:—Select a cool, shady place, either under hand-lights or a frame. Take six-inch pots, drain well, and fill to within 1½ inch of the rim with rough loamy soil having sand in it, then have half an inch of finer sandy matter containing a little leaf mould or peat; water well, and let the pots stand for twenty-four hours, then level the surface, and scatter the fine seeds evenly over it. Cover with just a sprinkling of silver sand, and press again. Set the pots in their place, but thinly, and cover each with a square of glass, and keep the cinders or ashes, &c., on which the pots are set, damp. This will be better than watering the pots, as the first watering will generally give moisture enough to bring the seedlings up, and then it is better to sail or dip the pots when dryish than to water overhead. As the seedlings appear the squares of glass should be raised on one side, and ultimately removed, and are long the little things will want pricking off.

Flower-beds.—Much against our will we were forced to water most of these, and especially the Calceolarias, as they were heavy with bloom. We tried to make the hoe and surface-stirring do instead of the watering-pot, and they did wonders; but a few Calceolarias showed signs of distress, and we thought it prudent to water. Scarlet Geraniums stood well. On Tuesday morning we had a heavy drizzling dew, which may end, despite the stationary condition of the barometer, in a heavy rain, which would now be acceptable to many things, though it might retard late haymaking. The day after watering we went over most of the beds with the hoe, where access could be obtained, to leave the surface rough again, alike to keep in moisture and to allow it to penetrate into the ground without running off, if it did come to us from the heavens. This is especially necessary in raised beds and borders. This watering may be a small matter where nothing more is required than fixing a hose to a supply-pipe, but it is a great labour where water is scarce, and where all that is used must be carted, wheeled, or carried. Much time and labour are often lost in gardens from the size of gates and doors preventing the access of carts, water-barrows, &c., and even where water could be brought, from the false economy of not conveying it in pipes where most wanted. Where water must be carried, the labour is vastly increased.

Placed Pelargoniums done flowering full in the sun, and will give little water that the wood may be well hardened before cutting them down. Fresh arranged verandahs and conservatory. Potted Primulas, Geraniums, Balsams, &c., and attended to plants much as described in previous weeks' notices.—R. F.

COVENT GARDEN MARKET.—JULY 28.

All descriptions of small fruit, such as Currants, Gooseberries, &c., are very plentiful now, and the fine weather has been most favourable for bringing them to market. Foreign produce is also abundant, and eagerly sought for to furnish our northern and midland markets. Good sound Potatoes are in sufficient quantity for all buyers.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples ½ sieve	2	0 to 8	0	0	0
Apricots doz.	2	0	4	0	0
Cherries lb.	0	6	1	6	0
Chestnuts bush.	0	0	0	0	0
Currants sieve	5	0	6	0	0
Black doz.	8	0	8	0	0
Figs doz.	8	0	15	0	0
Filberts lb.	0	0	0	0	0
Cobs 100 lbs.	0	0	0	0	0
Gooseberries quart	0	4	0	6	0
Grapes, Hothouse. lb.	3	0	5	0	0
Lemons 100	6	0	10	0	0
Malons each	2	6	to 5	0	0
Nectarines doz.	4	0	8	0	0
Oranges 100	12	0	20	0	0
Peaches doz.	10	0	15	0	0
Pears (dessert) .. doz.	1	0	8	0	0
Kitchen doz.	0	0	0	0	0
Pine Apples lb.	2	0	8	6	0
Plums ½ sieve	0	0	0	0	0
Quinces ½ sieve	0	0	0	0	0
Raspberries lb.	0	6	0	9	0
Strawberries lb.	0	6	1	0	0
Walnuts bush.	14	0	20	0	0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes each	0	2	to 0	4	0
Asparagus bundle	6	0	8	0	0
Beans, Broad. bushel	5	0	0	0	0
Kidney ½ sieve	2	0	8	0	0
Beet, Red. doz.	2	0	8	0	0
Broccoli bundle	1	0	1	6	0
Brus. Sprouts ½ sieve	0	0	0	0	0
Cabbage doz.	1	0	2	0	0
Capelans 100	0	0	0	0	0
Carrots bunch	0	4	0	8	0
Cauliflower doz.	2	0	6	0	0
Celery bundle	2	0	8	0	0
Cucumbers each	0	4	1	0	0
pickling doz.	0	0	0	0	0
Endive doz.	2	0	0	0	0
Fennel bunch	0	8	0	0	0
Garlic lb.	1	0	0	0	0
Herbs bunch	0	8	0	0	0
Horse-radish bundle	2	6	4	0	0
Leeks bunch	0	8	to 0	0	0
Lettuce per score	1	0	1	6	0
Mushrooms pottle	8	0	4	0	0
Musht.A.Cress, punnet	0	2	0	0	0
Onions doz. bunches	4	0	6	0	0
Parsley ½ sieve	2	0	0	0	0
Parsnips doz.	0	9	1	6	0
Peas per quart	0	9	1	8	0
Potatoes bushel	2	0	5	0	0
Kidney doz.	8	0	6	0	0
Radishes doz. hands	0	6	1	0	0
Rhubarb bundle	0	4	0	8	0
Savoy doz.	0	0	0	0	0
Sea-kale doz.	0	9	0	0	0
Shallots lb.	0	8	0	0	0
Spinach bushel	2	0	8	0	0
Tomatoes per doz.	2	0	4	0	0
Turnips bunch	0	4	0	6	0
Vegetable Marrows ds.	0	9	1	8	0

TO CORRESPONDENTS.

•• We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

MELON SEEDS SPROUTING (*Allen Water*).—The seeds in a Melon long ripe, taken from it, and not dried, would readily germinate during this hot weather. Peas will germinate whilst in the pod.

FIFTY OUT ROSES (*J. Eames, jun.*; *One of the Committee, &c.*).—This question needs no further discussion. "Fifty out Roses" accepted as the wording is always accepted among gardeners, means fifty Roses in bloom, and the collection having fifty-one in bloom ought not to have had the prize. It would not have been "hard" to disqualify it, any more than it is hard to disqualify anything exhibited that does not strictly conform to the terms of the exhibition schedule. The schedule in the present instance defines "a tree" (not quite accurately), adding, "any addition, even of a leaf, will disqualify." The same strictness should be followed throughout the schedule.

LEARNING GARDENING (*A Constant Reader*).—Pay a premium to the head gardener, and, when you have been with him the stipulated time, obtain employment in a nursery for a year or two.

MILLET (*A. W.*).—It is ground and made into puddings. Apply to a wholesale seedman.

PELARGONIUM AND GERANIUM (*J. P. Lambie*).—You ask, "What is the difference?" and we could only reply fully by giving lengthy botanical distinctions. The genus Geranium has been divided into three genera, Geranium, Pelargonium, and Erodium; but Geranium is such an old-established name, that every one is liable to apply it indiscriminately to Geraniums and Pelargoniums. They all belong to the natural order Geraniaceae. Pelargonium is characterised by having usually seven stamens, and unequal-sized petals; Geranium, having ten stamens, and equal-sized petals; and Erodium, having five fertile anthers usually.

VARIOUS (*Baby*).—We do not see anything better in your Tropaeolum than several others in cultivation. *Gardenia florida* might grow and flower in a cool vinery, but would grow much better if kept in moderate heat during the winter and spring months, after which it would flower freely in a cool vinery. We have not used sea water, nor should we advise it to be used. A liberal dressing of salt on the surface of the Asparagus-bed in the spring is the usual mode of applying salt. No. 1 of the wild flowers is *Hyoscyamus niger*, Henbane. No. 2 we do not recognise, and should feel greatly obliged if you would send us some fresh specimens with more foliage, we would then give you the name. No. 3, seedling fronds of *Osmunda regalis*, or Royal Fern.

JASMINE (*A. H. of B.*).—Your specimen is of the Spanish or Catalonian Jasmine (*Jasminum grandiflorum*). Although a native of the East Indies, it has long been naturalised in Spain, where it grows in the open gardens unprotected and is in bloom nearly throughout the year. It abounds in Valencia, Murcia, and Catalonia. In Portugal it is called the Italian Jasmine. The perfume sold as essence or oil of Jasmine is prepared from its flowers. Against a wall in your garden at Beckenham it is not surprising that it thrives. (*R. J. G.*)—No. 1 is the common Jasmine (*Jasminum officinale*). No. 2 the Catalonian Jasmine noticed above.

CAN AN APPLE GRAFT BE LONGER-LIVED THAN ITS PARENT TREE?—(*A. H. of B.*).—We think it can. Grafting upon a young and vigorous stock may impart to the scion a supply of sap more abundant than could be supplied by the parent stem. We do not say that grafting can perpetuate the existence of a variety of the Apple, but it may continue to invigorate a scion so long as the organs of that scion are able to elaborate a larger supply of sap.

TRITONIA AUREA LEAVES EATEN (*J. C. Beale*).—The leaves sent are eaten by some insect, which is the cause of the spots and white stripes. What insect it is, as we have no specimen, we are unable to say.

PRIZE FOR MODEL GARDEN (Habitat).—You say that the prizes offered were "No. 56, Design or Model," "No. 57, Model Garden," and a miniature garden was exhibited with beds, sand for gravel, zinc painted green for box, &c. There can be no doubt that it ought to have been exhibited in Class 57. That was especially for a model garden. Class 56 was for a design or model of any other kind.

DRYING FERNS, &c. (E. T. W.).—No tools are required. Spread between sheets of thick blotting paper the specimens in their natural position, placing every pinna or leaf flat and separate, and put on the top of the blotting paper a flat board and a weight of seven pounds or thereabouts. It is best to have a quire of blotting paper.

GUANO WATER—ROSE BUDS NOT OPENING (Agnes).—The guano should be allowed to dissolve at least twelve hours before it is applied, and being well stirred up, should be strained to free it of lumps. If you were to give your Roses a plentiful supply of water, we think that they would open the buds freely. The evil is probably caused by the dryness of the soil and atmosphere.

NUPHAR LUTEA SOWING—MYRTOPHYLLUM SPICATUM AND ACORUS CALAMUS PLANTING (Peterborough).—Now, or immediately after they are ripe, is a good time to sow seeds of Nuphar lutea, casting them into a pond with a foot or so of water over a muddy bottom. You may tie a small stone to the lower end of the Myrtophyllum spicatum, and throw it into a depth of 9 inches or a foot of water. Acorus calamus may have a large stone tied to the root, and be cast into a foot or 18 inches deep of water over a muddy bottom. Now is a good time.

RAPHANUS CAUDATUS (S. W.).—It is a native of Java, and seed of this, the Long-tailed Radish, should be sown in a gentle heat, and when the seedlings are up and of a tolerable size, plant them out in the open air in good rich soil. It requires abundance of water during dry weather, and the ground about it should be frequently stirred. You will find full particulars at page 181, Vol. X., New Series, (De Foir).—Sow your single seed in an eight-inch flower-pot filled with light rich soil, burying the seed just the depth you would a common Radish seed. It needs no protection at this season.

VINE LEAVES BAYED—LEAVES SPOTTED (E. W.).—From your description of the leaves we should attribute their skeleton-like appearance to the ravages of some caterpillar, which you may discover upon close examination of the foliage; or it may be caused by some beetle, or even sawfly, and that you may ascertain by placing a white sheet beneath the Vines after dark, and shaking the Vines will cause the insects to fall upon the sheet. The specks, which we presume are in the shape of excrescences on the wood, leafstalks, and bunches, are natural, and peculiar to the Vine, and we do not consider that they eat into either the wood or the footstalks of the leaves and berries, but form a part of it. They are not injurious.

ROOT OF VINE CUT (Idem).—The large root you cut from 6 to 8 feet from the collar will not destroy the Vine if, as you say, it was not more than 8 inches in circumference, and did not bleed from the end left. The Vine would only be weakened by the root being cut, and by bleeding from the part detached. We cannot help thinking that a Vine forty years old must have had more roots than this; but if there were not, and the root which was cut had all the fibres lower than the cut, then it is not improbable that the part attached had not more sap stored up within it than sufficient to cause the buds to break weakly, and the shoots to fall off. It is for you to tell whether the Vine is dead or not; if alive it is probable that the few dormant eyes which are hard may break.

VINES MILDEWED (Idem).—The berries are mildewed, and the remedy is to dust the parts affected with flowers of sulphur. The small red specks on the footstalks of the berries are too large for red spider, and are in reality a part of the stalk itself—natural. We do not recommend the fumigation of vineries, except for the purpose of exterminating insects, and then smoking is only available for thrips.

FLIES IN VINERY (Idem).—Make some beer very sweet with treacle, and with it quarter fill a soda-water bottle. Tie a piece of string round the neck of the bottle, and suspend it in the vinery from the roof. The flies will enter the bottle and drown themselves.

BOTTOM HEAT FOR PINES (As Amateur).—We have no doubt that you will have sufficient bottom heat from the hot-water pipes, provided the roots are not raised too far from the pavement above the pipes. In very severe weather you might scarcely have enough of top heat without a little protection. For ordinary occasions it would be ample.

GROUND BETWEEN STRAWBERRY PLANTS (Inquirer).—The ground between the plants, made hard by treading, may be pointed over with a fork to the depth of a couple of inches, but not more; for Strawberries like firm soil, and hoeing or digging the surface deeply is to be avoided, as it injures the roots. We cannot give the names of the best Pelargoniums to be selected from a collection of fifty unless you state the names.

POTATO DISEASE (R. Whitehorn).—The cause of the Potato murrain has not been successfully explained even by the wisest of vegetable physiologists. To electricity, manures, insecticides, and other circumstances have been assigned the origin of the disease, but the Potato had been exposed to them all for centuries, yet the disease only appeared recently. We do not discern any novelty in your suggestions.

BURNING SULPHUR IN A VINEY (Inquirer).—Of course such a proceeding would, as you describe, destroy the leaves, the Grapes, and the young shoots. Often in this Journal have we warned amateurs against such a destructive proceeding. By burning sulphur it is converted into sulphurous acid, which is alike destructive of animal and vegetable life. Dousing the leaves with flowers of sulphur, and painting the hot-water pipes with a mixture of sulphur, water, and clay are the best modes of employing sulphur against red spider.

CHALK IN SOIL FOR FIG TREES (A Grower of Figs).—A little chalk in the soil of your Fig-house will do no harm, and, though we would rather apply rough lime rubbish, rough chalk will do very well. However, we have had and seen fine Figs in nothing but good loam, with top-dressings. In your proposed border 2 feet deep, on concrete, we would manage as follows:—Have from 6 to 9 inches of open rubble above the concrete, and then you can use water freely, and the 15 inches of soil will be ample for the Figs. The Castle Kennedy Fig is a very good one.

BLACK ALICANTE GRAPE (A Constant Reader).—The large oval berries were fertilized; the small berries were not fertilized, and this causes the difference in the size. Your Grape is Black Morisco, rather a shy setter, and should be assisted at the time of blooming.

ROSES FOR EXHIBITION (J. S.).—High-coloured Roses are:—Charles Lefebvre, Senateur Vaisse, Duc de Rohan, Maurice Bernardin, Prince Osmine de Rohan, very dark; Empereur de Maroc, not large, but fine form, and very dark; or Riere Nothing, dark crimson. Light-coloured Roses are: Comtesse Cecile de Chabillant, pink; Aedalia, white; Glais de Dijon, yellow; Triomphe de Rennes, yellow; Baronne Gosselin (Bourbon), dove pink; Souvenir de la Malmaison, bluish; Duchesse d'Orleans, lavender bluish; Souir des Anges or Germaine de Sensal, bluish.

MELONS NOT RIPENING (T. F. B.).—The Melons do not ripen in consequence of the soil being too dry. If you water them well without making the surface wet, and give them more air, we think the flowers and embryo fruit will not turn yellow. Keep the plants heartily moist at the root, and admit abundance of air, and they will set fruit freely if care be taken to fertilize the blossoms. To name a plant from its leaf is hazardous. The leaf sent is that of some Colons, probably Colons Verschoffii.

ZONALIS (North Riding).—When thus spelt it is pronounced Zonal. Many persons prefer spelling it Zonal, and then it is pronounced Zonal.

CHINERIAS FOR BEDDING-OUT (Idem).—We have used Chinerias as bedding plants, but they do not make a good bed, except, perhaps, for late blooming. The time to sow Chinerias for this purpose is the middle of February; then grow the plants in a gentle heat, and harden them off for planting-out in the beginning of June.

LOBELIA SNOWFLAKE (Idem).—This Lobelia is with us as good and as useful as Lobelia speciosa, only it is white instead of blue. Lobelias are more free in growth from seed, but they do not flower so soon nor as freely as plants from cuttings.

ROSE STOCKS (Devonensis).—You can only procure the Rose stocks, Shanghai and Fortune's White Banksian, spoken of by Mr. Wills, by buying plants of each and raising stocks from cuttings of them.

NAMES OF PLANTS (T. W.).—Common Hebe, Hydrangea sp. (W. West).—It is the Lesser Dodder (Cuscuta epithymum), a parasite, which attaches itself to the Vetch and other plants. (H. Hirtz).—Pernettya mucronata. (W. D. A.).—Hydrangea quercifolia. F. M. C. 1. Onoclea sensibilis, N. America; 2. Nephrodium melle, Tropica (Aquatic).—The water-weed you send is a species of Rantunculus. The only way to get rid of it is to persevere in clearing it out as often as possible. We remember a similar case where a large piece of water was infested with the same weed, which was eventually destroyed in the manner mentioned.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending July 28th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 22	30.116	30.040	75	39	65	62	N.E.	.00	Very fine; dry air; very fine; cold at night.
Mon. . . 23	30.085	29.975	71	45	64	61½	N.E.	.00	Overcast; very fine throughout; with dry cool air.
Tues. . 24	30.080	29.995	67	50	64½	61	E.	.00	Hazy, overcast, cloudy; fine, overcast.
Wed. . . 25	30.195	30.171	68	40	64	61	S.W.	.00	Hazy clouds, overcast, fine; overcast and cold at night.
Thurs. 26	30.159	29.957	76	51	65	60½	S.W.	.06	Foggy; fine; cloudy; overcast; rain at night.
Fri. . . 27	29.848	29.698	67	47	66	61	S.W.	.04	Slight rain; overcast; cloudy.
Sat. . . 28	29.649	29.570	74	55	68	60	E.	.28	Very fine; cloudy; exceedingly fine; rain at night.
Mean	30.011	29.911	70.48	46.71	68.78	61.00	..	0.38	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

OLD AND YOUNG BIRDS AND DIFFERENT BREEDS RUNNING TOGETHER.

WHEN we were younger we spent much of our time—that is, all we had to spare—in a quiet Hampshire village. The church

was one of the old country churches; the less we say about the music the better, except that the flute and bassoon players were marvels to the children who attended church for the first time. About once in every quarter the choir sang an anthem, when it was strengthened by the assistance of a fiddle and two or three voices from a neighbouring village. It was a great day for Harley church when the anthem was sung. The pitch-pipe was brought into requisition, the instruments were tuned

together in the gallery, heads were wiped down out of sight; while important communications were held, and at last it was sung; and when the singers sat down they looked at each other and smiled, while a little buzz went through the congregation, and almost broke out into open applause. In the same way our clergyman had certain texts and sermons for certain seasons. We heard just before Lent about the sower. We had appropriate texts for harvest, for summer, for the new year, and they were well passed home; but people got used to them, and as old John Tice passed farmer Eagle coming out of church, he would say, "The old sermon, maister, again; a body would suppose parson thought we forgot the time of year. I've heard that sermon a matter of forty times. Where shall we begin to-morrow, in home-plat or eight acres?"

Just in the same way we have certain subjects for certain periods—they come, like the seasons, in course. We doubt whether those who heard the sermons remembered all of them, and so we judge from the queries we receive that part at least of our previous homilies are forgotten. We will take them as they come.

Inquiries.—"The cock chickens are so forward that they will not run peacefully with the old birds: which should be confined?" The young ones; you may catch up twenty that have been running together, and put them in one pen; let them be well fed, and they will grow faster than when at liberty. A pen for such should be 20 feet long by 10 broad.

"F. A. S." wishes to break up all his pens now (he has three different breeds), and to let his birds run together: how is he to manage it? If there is room for them, put all your birds to roost in one large house, catch them at night, and put them on the perches. It often prevents fighting. There is neither risk nor injury in their running together till after the moulting season. You will have no eggs now that you require the birds to sit. If you wish to sit very early ones be careful to put your different breeds back in their pens in October; but if you are not intending to breed before January, it will do perfectly well if you put the birds back in November. This will give time for your pens to get sweeten but to freshen; and your long-gutted-up birds will find when at liberty the helps necessary for forming their new plumage, and they will gain the strength to make them profitable occupants of their separate dwellings when the time arrives for their being again confined. These texts to the birds are like the alternations of night and day to mankind—they afford the opportunity for the reparative process to go on. Now, the surface of the pens and roosting-houses should be taken off and given to the gardener, and all water well lime-whited, and the run dug up and left rough, doors and windows left open. In fact, all should be done that can sweeten and renovate. It is the season of rest for fowls and their owners. May both enjoy it and turn it to the best account.

MEDICAL REPORT ON A POULTRY-YARD.

My stock for the past nine months (I only began last October), has been one cock and six hens.

Case 1st. About two months ago one hen was taken ill, and after four or five days died. Soon afterwards another died, and now some chickens six weeks old are dying one after the other. The symptoms are—soft crop, which at first sight seems very full of food, but on handling is found to be full of fluid only; loss of appetite, and after death a running of fluid from the mouth.

In the case of the first hen, I put her in a coop on some grass, gave her water only three times a day, fed her on bread soaked in beer, or rather put it before her, for she would eat nothing, and as she was no better after five days, I one evening gave her a dessert-spoonful of castor oil. This seemed to finish her, for the next morning about ten o'clock she died, and the oil with the other fluid ran from the mouth after death.

My poultry are in an enclosed yard 26 feet by 16 feet, consist of common farmyard fowls, all but the cock and one hen, and are twelve months old. They are fed as follows—Noon, barley as much as they like to eat, then taken away; evening and night, pollard (1s. 4d. per bushel), mixed sometimes with mashed potatoes, as much as they can eat, then removed. Some lettuce is continually by them, clean spring water is given every day, and there is a sand-heap to back in.

Case 2nd. As Brahma Poultry are so much recommended in these pages for confined yards, I in April bought a cock and hen six months old, expecting by this time to have had a good

stock of Brahma chickens. As soon as thirteen eggs were laid I put them under a hen. I had seven chickens, three dead in the shell, and three eggs bad. The next sitting was eight Brahmas and five common eggs. The common eggs all hatched, but only two of the Brahmas; the others were bad. The next sitting was thirteen Brahma eggs, and not a single chicken; was hatched. The eggs when cooked for the other fowls had some of them the yolk quite distinct from the white, and in some it was rather mixed up together, but all smelt very badly. The next sitting was six Brahma and five common eggs. The latter all produced birds. The Brahmas were all unproductive. Some were clouded, and some had the yolk and white quite distinct. To-day nine eggs should have hatched, seven common eggs, and two Brahmas. All the former have produced birds; the two Brahmas were unproductive. You will perceive that out of forty-two Brahma eggs, only nine hatched, and those nine were from eggs laid during the first three weeks I had the hen, while all the common eggs produced birds. The extraordinary thing is, that all the hens (six) are with one cock, there being only one in the yard, and I have noticed that he attends to the Brahma quite as much as to any of the common hens. I notice nothing wrong in the hen, only she has dropped a soft egg about now and then.—J. R. BERTON.

[Lemon crop is a very common complaint, but we have never heard of its being almost general in a yard. When cases like this occur, we endeavour to find the cause in the food or treatment. You say at "noon as much barley as they like, and then taken away." We suppose from this that the barley is given in a trough or some other vessel; this is incompatible with health, and would go far to account for sickness of any kind. Fowls learn to look for the daily advent of the corn-box. As soon as it is put down they rush eagerly at it, and eat all they can, a monthful at a time. This is unnatural: a fowl should pick a grain, and not a monthful at a time. The fowl, knowing that the food will soon be taken away, and stimulated by the presence of the others, gobbles down as much as possible, overfills the crop, and then has what in the human being would be called "a pain at the chest." By instinct the bird has recourse to water to wash it down, but it can only pass to the gizzard as that empties itself of the food previously in it. In the meantime it swells, and causes distension of the crop. We believe that from the daily recurrence of this, there is a loss of digestive powers; that the gizzard has become large, weak, and flaccid, unable to dispose of the food daily put in it. Appetite ceases, and thirst increases, the fowl drinks to the last, and dies. You must have a larger space for the chickens, that you mention is not large enough for the number you have. Give your fowls a feed of slaked meal very early in the morning, thrown about in small pieces, so long as they will run after it. Give them whole corn at midday, but scatter it broadcast over the ground. Feed again with meal in the evening. While they are suffering from pendent crops let them have water frequently, but not always by them. As soon as the cause is removed they will return to health, and may be treated accordingly. Continue the dust-heap and the lettuces. It would seem that the longer the Brahma hen remains with you, the worse her eggs are. Were the forty-two eggs laid continuously, or was there the intervention of a broody time?]

FOWLS YOU SHOULD KEEP.

In reference to "Fowls You Should Keep," in your Journal of the 17th, may I give my experience? The monthly return of eggs obtained by "J. M. S." from six hens appears very small. Three hens of the La Flèche breed have produced for me as follows:—May, 47; June, 54; and July to the 23rd, 28. One of the three hens has just brought-off a hatch of chickens, and another has been sitting for the past ten days. I regret I cannot carry my statistics as regards these three hens further back, but the hens were only imported in April, and commenced laying at once. I have also had good fortune with Houdan and Crève Cœur; but of the three breeds I confess to a leaning towards the stately and handsome La Flèche.

I should have mentioned that my three hens and a cock are in a run, about 8 feet square, in the suburbs of London, and that all the French fowls appear wonderfully tolerant of confinement. Were I not afraid of occupying too much space, I would give you the results of my hatching-experience, but will content myself with remarking that chicks hatched in my incubator run about with and appear quite as strong and well-to-do as those hatched at the same time under hens.—S. W., F.F.S.

EXTRACTING THE GAPES WORM.

I noticed in your Number of July 24th remarks upon extracting the gapes worm. This is a frequent disease in America, and carries off numbers of young chickens.

The plan I adopted was to take the top, say 4 inches down, of a quill feather, and strip off all the feathers except for three-quarters of an inch at the end where cut. The remaining part I cut with scissors about one-half the length, running the finger down to spread it and give it a barb-like appearance. Of the sharp part of the stem where cut I dip just the tip in sealing-wax to prevent its injuring the windpipe. I then anoint the feather with spirits of turpentine or coal oil, thrust it down the windpipe, twist it round, and then withdraw it. This barbed part brings the red gapes worms up with it. I never experienced any difficulty in doing this, and in most instances effected the cure.—JAMES SPATT.

ON PRESERVING EGGS.

At a late meeting of the Farmers' Institute in New York, a note was received from Mr. W. M. Brown, of Indiana, inquiring whether there is any way to pack eggs so as to keep them good from spring until the winter months? Upon this question the following discussion took place. The name of the first speaker is not given:—

There are various modes of keeping eggs, none of which are quite successful. Sometimes eggs packed in water saturated with lime keep perfectly well, and sometimes they do not. Some persons say they can keep them in water saturated with salt, others keep them packed in fine dry salt, others in charcoal dust. If packed in sand and kept in a very cool cellar, they will remain through the year. They should always be packed small end up. The best way to preserve eggs is to store them in one of Professor Nyce's preservatories.

Professor Smith, Columbia College, said that the common way of preserving eggs in the north of Europe, and which appeared to be more effectual than any other mode he had ever seen, was this:—The eggs are placed in a barrel, keg, earthen jar, or any other suitable vessel, and then melted tallow, only just warm enough to flow, is poured in, filling the interstices, and thus hermetically sealing the eggs from the air, which appears to be all that is necessary for their perfect preservation. When wanted for use they are easily obtained by warming the open end of the vessel to soften the tallow.

Mr. Solon Robinson said he thought lard or oil would answer the purpose; it would be more convenient. He had heard molasses recommended, and did not see why it would not answer perfectly.

Mr. Carpenter said he had found no difficulty in preserving eggs in fine dry salt. He packs them endwise, and about once a month reverses the ends of the casks, or rather box with straight sides, so that a board and cloth or paper fits down and holds the contents in their place when reversed.

Professor Tillman gave it as his opinion that anything which would exclude air would preserve eggs. Recent experiments in France have developed the fact that varnishing the shell destroys the value of the egg for incubation.

Mr. E. Williams said he had seen eggs perfectly preserved by packing in meal.—(Canada Farmer.)

NOTES ON BIRDS OF PREY IN ESSEX.—No. 2.

Great Horned Owl.—A very fine specimen of this noble bird was once shot in Mark Bushes, Latton, by Mr. Paine, keeper to Colonel Burgoyne, of Mark's Hall. The Colonel had it stuffed and placed in the front hall.

Long-eared Owl.—This is a very beautiful and rare bird. During the severe winter of 1860-61, three of them were shot in this neighbourhood—one at Sawbridgeworth, one at Harlow, and one at North Weald. This last I saw. It is an extremely rare visitor in this district, and the birds shot were probably driven southward by the intense cold.

Short-eared Owl.—This is still more rare than the preceding. Some years ago one was shot at Sheering Hall, but so far as I am aware, this was the only instance of its appearance. I may here remark, that Sheering Hall is situated in a vale by the river Pincey, which, until of late years, was densely wooded. It was, therefore, sometimes the resort of rare birds.

Tengmalms Owl.—Very rare. I saw one that was shot some

years ago in Birchanger Wood, near Bishop Stortford, and as it was only wounded, an attempt was being made to keep it alive.

Wood Owl.—This is a strong and fierce bird, of a dusky colour, with different shades of brown. It was so common that when a boy I always had one or two of them tame. They used to breed within a hundred yards of the house, and were great destroyers of rats. It was pleasing when walking on a fine night to hear the solemn notes of these birds responding to each other at a distance; but they are all destroyed, I believe, not one of them now remains.

Brown Owl.—Smaller than the preceding, of a lighter colour, and not so often seen, as it did not frequent out-buildings, but kept more to woods and other retired situations. Like the last it is now gone.

Barn Owl.—This beautiful and useful bird is now like the others nearly extinct. Its food consisted of mice, which it destroyed both in barns and fields; it used to begin its hunt about an hour before sunset, and continued it till daylight, thus rendering great service. Like the Kestrel Hawk, it touched no sort of Game, but it is so often destroyed by ignorant people that I fear we shall soon have to deplore its loss altogether.

The Little Scops Owl is said to have been seen here, but I believe it to be a mistake.—D. S. FRENCH.

THE EGYPTIAN BEE.—PART II.

ITS INTRODUCTION INTO AND ACCLIMATISATION IN GERMANY.

(Continued from page 75.)

"Of animals hostile to bees which exist in Egypt," continues Herr Vogel, "only hornets and wasps are known to me. At a certain time in summer a boy must always be stationed near the bee-hives, in order to drive away the hornets, or else these animals would rob all the honey from the stocks. He who knows how rich Egypt is in troublesome insects may form an idea what a pest the hornets especially are for the bees and their keepers during the hot season in Egypt. If robbing a stock by wasps has once commenced, it is difficult to afford help. It is, therefore, the chief task of the watchman to ward off the first attacks of these enemies.

"As but a few Fellahs and Copts keep bees, it requires a good deal of time to find out an apiary. A European who does not know the Arabian language can discover an apiary mostly only by chance. Moreover, the Fellahs are so intolerant as often to throw great difficulties in the way of discoveries of this kind in Egypt, which difficulties cannot often be overcome, and travellers are frequently attacked by robbers. In Manzura Copt keeps bees, who is said to be the Egyptian master of bee-keeping. Herr Hammerschmidt, a photographer, went to this man in 1868, to buy a stock for the Berlin Acclimatisation Society; the gloomy, distrustful, and very superstitious Egyptian did not, however, give a decided answer. Not even a dead bee, which was to be sent to Berlin as a sample, could Mr. Hammerschmidt obtain from him. For 15 to 20 thils. (£2 5s. to £3) only was he willing to part with a dead bee. Herr Hammerschmidt fortunately succeeded, in 1864, in finding out a small apiary in Old Cairo. The proprietor, a Fellah, who had been brought up in a European family, gave a bee as a sample, and parted with a small swarm for a considerable sum of money, he also made the hive for transportation, and had the box for packing it in made by his son, who was a joiner. This Fellah was only induced to sell the swarm by Mr. Hammerschmidt, who is a perfect master of the Arabian language, remarking to him that his name would not only be mentioned in Europe, but become immortal. This alone had the desired effect. The Fellah would not hive the swarm in a wooden hive, being of opinion the bees were not accustomed to wooden hives, and would die in it. He, however, is not quite an unpractical bee-keeper. In order to compel the bees to make combs parallel to the diameter of the cylinder, he puts old combs on a small forked stick, which is exactly as long as the cylinder is high inside, and fixes them in the hive which is to be stocked. The bees fasten the inserted combs to the surface at the top of the cylinder and to the twig, and after they have been loosened at the top the Fellah can take them out with the stick, and also insert them again. The Fellahs have also partially moveable combs. The new combs which the bees make in the cylinder they make parallel to the inserted ones, and the excision of honeycombs is thereby much facilitated.

"The Egyptian bee, which is distinguished from all other known varieties by its small size and light pubescence, is

spread over the whole of Egypt. As the valley of the Nile is rather isolated in apian respects, this species cannot intermingle with other varieties, and therefore maintains its purity intact. This has been proved by single bees collected from different parts of the country. Arabia, in nature African, has likewise the Egyptian form of honey bee, which is proved by the specimen in the Berlin entomological collection, which was brought by Ehrenberg from Arabia Felix. The Syrian bee differs only from the Egyptian in being somewhat larger, and having a hairy yellow corselet; it is in other respects so much like the Egyptian variety that it may be considered as belonging to it. Even at the present day the Syrian form of the Egyptian bee exists in Palestine in hollow trees and clefts of rock, and it was from this bee that honey was obtained by Samson. Besides the Northern and Italian hybridous bees, and the so-called Grecian or Hymettus bee, bees are frequently found in Asia Minor, which by their light-coloured corselet-plate and small size again approach the Egyptian bee. The Egyptian form of the species with dark hairy crown of the head, goes through the Himalayas as far as China, and was called by Fabricius *Apis cerana*.*

"As the subtropical zone is the home of the Egyptian bee, it was feared that this variety, which exists only in hot countries, would soon perish in the climate of Germany. A friend of mine informed me in 1864, that he had heard of the Egyptian bee having been introduced into England years ago, and that it had died there on account of the climate.† I can readily believe that the acclimatisation of the Egyptian bee has been attempted in England, and that it soon became extinct there; but, judging from the nature of the northern and Italian bee, I do not believe that it perished on account of the climate. Any effect of the Egyptian climate upon a being reared in Germany could only be imagined if the so-called cellular or preformation theory were true. According to the imitative or epigenesis theory, which rests upon the development of all being from the bud or germ, it is quite natural to suppose that the germs of propagation, like the germs of the other organs of the animal body, should be formed and develop themselves in time, so that the influence of the Egyptian climate upon beings developed in Germany cannot be supposed. From the beginning I inferred that if the Egyptian bee could not at once bear our climate, it was doubtful whether it would ever become accustomed to it. If *Apis fasciata*, in order to be kept with profit, must be compelled to alter its nature, the acclimatisation of the insect would become impossible; for the native nature of the bee is, according to our experience, unalterable, whilst its inborn impulses are unchangeable, the Creator not enabling it to develop new instincts. The belief that bees in the West Indies leave off storing honey because they find food there uninterruptedly during the whole year is founded in mistake. Such a change in the nature of the insect cannot be imagined, as it is in direct opposition to the immutable laws which govern the nature of the bee. Horses may be broken in, dogs may be trained, nay, even lions, &c., may be tamed, but the nature of the bee neither man nor climate can alter. The latter can only regulate its instinct in every country of the earth in accordance with the variation of the seasons."

(To be continued.)

PAINLESS EXTINCTION OF DRONES.

It is a common opinion that the massacre of the drones in a hive is a cruel and, I may almost say, unnatural proceeding. As the time has arrived when the destruction commences some of your readers may be interested in observing whether the drones suffer a painful death. I am inclined to think not, but that the body is sucked by the bees, so that the drone dies from exhaustion, whilst part of the store he has consumed is returned to the hive. I am strengthened in this opinion by the fact, that the attack is always made on a particular spot behind the

wings, and that drones recently killed are lighter than live bees.—HARRY HUGHES, *Loughborough*.

[We are unable to endorse your theory of the "painless extinction" of drones. Numbers, doubtless, perish of exhaustion, or are worried to death, few, if any, being actually stung; but this exhaustion seems to be the result of starvation, the unfortunate males being rigidly denied access to the stores of the hive some time before active hostilities are commenced. The attack which you notice as being made behind the wing is the mode in which a worker always endeavours to seize a hostile bee, and has, probably, this advantage, that it often enables her either to disable her adversary by dislocating the wing, or to inflict a fatal wound by curving her body and piercing with her sting the vulnerable parts underneath the abdomen.]

HIVING A SWARM SETTLED IN A CHIMNEY.

Will you inform me what is the best method of hiving a swarm of bees which settled in a chimney leading from a flue? They cannot be reached by anything from beneath. They have been there about two months.—W. P.

[We must again confess ourselves puzzled, and shall be obliged to any of our correspondents who may be able to advise "W. P." in his difficulty. Why have the bees been permitted to remain in the chimney for so long a time as two months?]

IS THE LIGURIAN BEE REALLY MORE PROLIFIC THAN THE COMMON BEE?

Mrs. LAW's account of his Ligurian bees proves them to have been in his case certainly "prolific to a degree," but as the article is headed "Superiority of the Ligurian Bee," I must put in a claim to equal merit on this point for my old black friends, and I think I am justified in doing so by the following facts which occurred in my apiary this season.

I had, from a stock two years old, a remarkably fine swarm on the 27th of May, which, by the way, appears to have been a great swarming day in England, as well as here. This was followed in six days afterwards (the 2nd of June) by a very respectable second swarm; and this again in six days, the 8th of June, by without exception the largest and finest swarm I ever hived. The bees came away from the hive exactly at three o'clock in the afternoon, and I never remember to have seen the air in such a state of commotion, or to have heard such joyous music discoursed by my little favourites. For ten minutes at least I was quite uncertain where their final destination would be, when suddenly her majesty came down from her honeymoon flight, as I suppose, and rested on a currant bush by my side, and to my gratification she was instantaneously surrounded by her faithful subjects. The productive powers of the parent hive were, however, yet far from being exhausted, for on the 15th of June, for the fourth time, a gallant army sallied forth, all, like their predecessors, to be taken prisoners without striking a blow. These last I joined to No. 2.

Thus in less than three weeks I obtained from one hive three magnificent stocks. All of these have since not only filled the bodies of their hives, but are working merrily in glass supers, and two of them have, to my great disappointment, within the last few days thrown virgin swarms (very fine ones), but too late, I fear, to set up housekeeping arrangements for themselves this season, so I have obtained furnished lodgings for them with some kind neighbours. I do not, however, know that I am justified in using the term "kind," for I regret to say that in almost every case of uniting which I have attempted—and I have carried out my operations to the letter, as directed by all the best authorities—I have, like "G. J.," in your Number 277, been horrified by the number of dead and dying on the white cloth; in fact, the dreaded "needle gun" could not carry on the work of destruction with greater rapidity, or more fatal effect than the stings of these little rascals, when their territory is invaded at night. I have not tried peppermint; has it the effect of soothing their ire?

Although I think the facts I have stated above show that with proper management the black bee is sufficiently productive to satisfy the most exacting bee-master, still I am very anxious to introduce the Ligurian bee into this neighbourhood, and as many of my friends are equally so, any hints as to the best mode of procedure would be most acceptable. The prices

* The name "Egyptian bee" is, strictly speaking, incorrect, because this bee is also met with in Arabia; but the species being thus styled it works on natural history, having been domesticated and cultivated in Egypt from the earliest times, and finally introduced into Germany from that country, we do not seek to change it. The un-German name, *Apis fasciata* (fascio, avi, atum, are, to wind or bind bands around), was given to it by the French naturalist Latreille (1838), because he considered it a species of that genus. The Latin name no doubt signifies that this bee appears to be adorned with reddish-yellow and white bands.

† This appears to be a mistake, as I believe no such attempt as that referred to was ever made.—A DEVONSHIRE BEE-KEEPER.

charged for Ligurians by most London and other English beekeepers are most exorbitant, and they do not guarantee their safe arrival in Ireland.

One of my stocks (one of the best as I hoped), has behaved in a most extraordinary manner this year. I put on a bar super box in May, and they went up in crowds at once, and worked splendidly until about the 10th of June; about that time they appeared to me to be *in statu quo*, and remained so till the end of the month. On taking off the box to examine the cause, I found the passages between them clogged with drones, and the bees have never since resumed work or swarmed, although they appear at the entrance to be working most vigorously. What is the cause?—Squis, Co. Kildare.

I READ with great interest the account of the results obtained at Marston Trussell Rectory, communicated in your Journal of the 10th inst. I wish to supplement it with a statement of the results realised in an apiary in this neighbourhood, where the treatment was far from being scientific, and where the common bee (*Apis mellifica*), alone is kept. The proprietrix, for it is a female, the sister of a farmer, who interests herself in the bee department, had only four hives this spring. They were in ordinary straw skeps, and in fair condition. No. 1 cast three swarms, of which the top swarm cast other two; No. 2 cast three, of which, however, one was lost, and the top swarm cast a virgin; No. 3 cast three swarms; No. 4 cast two, making in all, along with the old stocks, eighteen. The swarms were all large. One of the virgins I obtained to people an observatory hive; and the other, which I visited to-day, was very large, so much so that a more commodious skep had to be procured for it than the one in which it was first housed. It is the case of Marston Trussell six hives swelled out to twenty-three, which might have been increased to twenty-five, in the case I am describing four became eighteen, giving the advantage in favour of the black bee. I may add that other swarms are still expected.—PHEASANT.

[It seems to us that no satisfactory conclusion can be arrived at by the comparison of results obtained in different places, where the season, pasturage, and mode of management may be alike dissimilar. An impartial observer keeping both varieties in the same locality, at the same time, and under precisely similar circumstances, would in our opinion be the best, if not the only, evidence that could be offered as being at all decisive on the point.]

UNITING BEES.

A TOLERABLY large swarm came from one of my supered bar and frame hives, and I wished to unite it to a weak stock in another bar and frame hive. The following is the plan I adopted:—Having secured the swarm in a common straw hive, I placed it at 7 p.m. over the bar and frame hive, and opened the side slits in the adapter to allow the smell of the stock to rise up to the swarm. I also somewhat freely sprinkled both stock and swarm, as well as I could, with honey and water. I went to them about an hour afterwards, and all appeared quiet. Next morning the swarm was in its hive. I then placed a glass super over the stock, and resting the swarm on its top edge, gave the hive containing the swarm a smart blow or two. All the bees were now inside the super, and I gave them a second sprinkling of honey and water. Now began a fight which continued until every bee (of the intended swarm, I presume), was killed and cast out of the stock on the ground in front. Not a single bee is to be seen in the super. Query, Do the bees that sting other bees to death themselves also die, as they do when they sting human beings? If not, why not?

An immense number of bees have been hanging on and about a stock upon which there is a large bell super. Thinking it might be fit to remove I took it off the other day, but found very little honey and a good deal of brood-comb. I replaced it, and still the bees are hanging by thousands about the hive, doing nothing else. The same is the case with one of my Stewarton hives, although the top box was put on more than a week ago, and is filled with bees as idle apparently as those are that are hanging in a great bunch beneath and around the alighting-board. I suppose I must put up with their idleness.

Bees say that bees will not attack people at work at a distance from the apiary. My experience and that of my children and gardener is just the opposite of this. They attack us

when we are some distance from the apiary, and pursue us relentlessly.—T. B. DRAKE, *Fittleworth Vicarage*.

[The union might have been more successful had you removed the adapter, and knocked out the swarm on the top of the exposed frames. This is, in point of fact, the mode we ourselves adopt, previously deepening the hive at the top by the addition of a square wooden frame of suitable diameter and about 1½ inch deep, upon which we place the crown-board as quickly as possible after knocking out the cluster of bees. We use, also, a little smoke and peppermint-scented syrup, but, with all these precautions, are not exempt from occasional failures. Bees that sting other bees do not always perish, because the membranes and soft integuments of the bee are so delicate and fragile as to permit of the sting being withdrawn without injury. When, however, as sometimes happens, that weapon penetrates the head or any part of the horny armour of the bee it remains immovably fixed, and the result is fatal to both combatants. The honey harvest may possibly be on the wane in your locality, as it is in ours, and this would account for the apparent inactivity of your bees. If, however, honey is still plentiful, adequate ventilation and sufficient room being afforded, they will speedily resume their wonted industry. Bees do not usually amney persons at a distance from their hives. There can be no doubt, however, that their dispositions vary considerably, and yours seem to be unusually irascible.]

OUR LETTER BOX.

WEAK-MINDED BRAHMA POOTRA (*J. E. C. S. D.*)—It is uncommon for a Brahma cock of the age you mention to become weak at the knees; that complaint belongs to youth and old age, and unless there is something very wrong with him he ought speedily to recover. We think your stimulants should be preceded by opening medicine, and advise you to give castor oil, a table-spoonful; you may give two doses at two days' interval, and a third three days afterwards. Then feed on bread and ale, cooked most chopped fine, and chopped egg, with ground oats slaked with milk. He should be put in a place by himself. The cross you speak of is not so good as that between a Brahma and Dorking.

PHEASANTS (*P. R.*)—Runts to be good should weigh 4½ lbs. per pair. Barbs are best with pearl eyes, but often have gravel eyes. White Barbs nearly have dark eyes. Fantails may have from twenty to forty feathers in the tail, but I think one with twenty feathers and good carriage is preferable to one of bad carriage, though it may have double that number of feathers.—B. P. BRENT.

TREATMENT OF YOUNG CANARIES (*Sick Birds*).—Your young Canaries "becoming puffy and dropping from the perch," seem to die from inflammation of the intestines. It may arise from bad food, or from sudden changes of temperature. Let them have the same soft food to eat as that with which they were fed by the old ones, be careful to avoid pungent rape or seedling hemp. Young birds are too often hung in the hot sun, and then suddenly removed to the cool shade, which acts injuriously on their susceptible organisation. Fresh air; wholesome food; exercise and the use of the bath, are the best promoters of robust health. See that the Canary seed is good and not damaged.—B. P. BRENT.

EPPING POULTRY SHOW (*W. Tippler*).—When we stated the truth that the Committee were novices in the management of a poultry show, that is an admission of excuses for their shortcomings in respect to catalogues, labels, &c. &c. The Committee will be more adroit next year. Our reporter totally differs with you as to the Rouen Ducks.

SPANISH FOWLS AT THE EPPING SHOW.—Your reporter of the Epping Poultry Show says that age had laid a heavy hand on my Spanish fowls, that the cock was long past his best, and that the heavy corrugations of the face rendered him almost sightless. Permit me, as the owner of these birds, to say that they were all hatched last year, and that the cock can see perfectly on both sides.—R. B. POSTANS.

CHICKENS CRAMPED (*W. R.*).—The cold and rain suddenly coming after the high temperature of the air we have had is the probable cause. Crush the wheat and barley, and give them a mash of oatmeal and ale once daily. Lettuce leaves will also be beneficial.

RABBITS (*Rabbits*).—If you enclose seven postage stamps with your direction, and order "The Rabbit Book," you will have it sent to you free by post from our office. It contains full particulars on all the subjects you mention, with portraits of the different breeds, &c.

MARINE PEN HOUSE (*S. Thomas*).—Write to Messrs. Fortnum & Mason, Piccadilly, and to Messrs. Neighbour & Sons, Regent Street, stating what you have to sell.

ROSE WATER (*A. R.*).—Three quarts of water to 4 lbs. of leaves. Let the leaves soak in the water for twenty-four hours before distilling.

POULTRY MARKET.—JULY 30.

The trade is fast disappearing, all London is getting out of town, and the demand lessens every day.

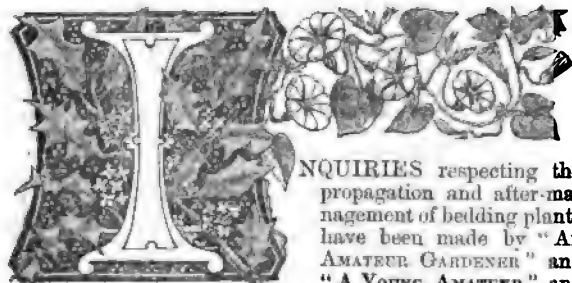
	s. d.	s. d.		s. d.	s. d.
Large Fowls.....	2 6	5 6	Guinea Fowls.....	0 6	0 0
Smaller do.	2 0	5 0	Partridges.....	0 8	0 0
Fowls.....	0 0	0 0	Hares.....	0 6	0 0
Chickens.....	1 6	1 3	Rabbits.....	1 4	1 5
Geese.....	5 0	5 6	Wild do.....	0 8	0 9
Ducklings.....	2 0	2 6	Pigeons.....	0 8	0 9

WEEKLY CALENDAR.

Day of Month.	Day of Week.	AUGUST 7-18, 1886.	Average Temperature near London.			Rain in last 30 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clear before Sun.	Day of Year.
			Day.	Night.	Mean.								
7	Tu	<i>Aloe nobilis.</i>	74.5	51.0	62.8	18	5 41	4 37	12 11	0 45	26	5	219
8	W	<i>Aloysis citriodora.</i>	74.7	49.7	62.2	16	5 36	4 35	11 9	0 49	27	6	220
9	Th	<i>Ammobium alatum.</i>	74.4	50.2	62.3	15	5 37	4 38	10 3	0 50	28	7	221
10	F	<i>Ammobium plantagineum.</i>	75.2	52.2	63.7	17	5 39	4 32	9 34	1 5	29	8	222
11	S	<i>Amphicome arguta.</i>	75.7	56.5	66.1	14	4 48	3 28	7 45	1 28	30	9	223
12	Su	11 SUNDAY AFTER TRINITY.	75.8	58.5	67.2	14	4 48	3 28	7 45	1 28	30	9	224
13	M	<i>Anacampteros arachnoides.</i>	74.4	50.1	62.3	17	4 48	3 28	7 45	1 28	30	9	225

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 74.9°; and its night temperature 50.6°. The greatest heat was 88°, on the 10th, 1842; and the lowest cold 38°, on the 13th, 1864. The greatest fall of rain was 1.14 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

BEDDING PLANTS.



INQUIRIES respecting the propagation and after-management of bedding plants have been made by "AN AMATEUR GARDENER" and "A YOUNG AMATEUR," and

the reply to them will doubtless be useful to others having an equally limited amount of accommodation for the protection of their stock in winter and spring. The one has a two-light frame, and the other has, in addition, a brick pit of four lights, and they wish to know what plants they can raise and winter for bedding-out. In neither case is there a greenhouse, and nothing is said as to the means for making up a hotbed and for protection from frost, but in offering the following remarks I shall presume that leaves and litter, as well as mats, can be obtained.

PELAGONIUMS.—Indispensable as the bedding kinds may be for the decoration of the flower garden in summer, it is to be regretted that they cannot with certainty be wintered in a frame or pit, for though rendered safe from frost by covering the lights and banking up the sides, damp and darkness, combined with a badly-ventilated atmosphere, are so fatal that a pit or frame is practically valueless for their preservation. Although, however, the frame or pit may be useless for preserving the plants, it is not so clear that neither will be available for the plants at some stage of their growth. That bedding *Pelargoniums* can be produced in quantity where there is nothing but a common frame and ordinary pit I hope to be able to show, and as a substitute for a greenhouse the windows of the dwelling must be called into requisition.

The way to proceed is to have boxes made of sound three-quarter-inch red deal, or of the best Baltic timber. A nine-inch board the width of the window will do for the bottom, and for the sides and ends one of these boards should be cut up the middle. The sides and ends are to be nailed on the bottom (not to its sides), with two-inch clip nails, and a plane run over the edges will take away the sharp cutting angles of the boxes. Two coats of green paint will then render their appearance passable. When the paint is dry, place at the bottom of the boxes an inch deep of the riddings of a compost consisting of two-thirds sandy loam and one-third river sand, to serve as drainage, affording the water a free passage to the joints of the boxes, which, being put together in the rough, will allow of the water escaping. The boxes having been filled with compost to within half an inch of the top, are to have half an inch of sand placed over the surface of the soil, and are then ready for the cuttings. There may be some difficulty in procuring the loam, I may therefore state the practice of a man who was very clever at surmounting a difficulty;

he being recommended to put in his cuttings in nothing but virgin loam and pure sand, and having neither, took a barrowful of the soil of his garden, a rather strong but not a clayey loam, and placed it under cover, a barrowful of pieces of soft bricks pounded and made fine, and a half-barrowful of sand which had been washed down a hill by rain. The whole was mixed and sifted with a sieve having quarter-inch meshes, the rough portions were placed at the bottom of the boxes, and these were filled up with the sifted soil. The result was that scarcely a cutting failed to root and winter safely, though the means were limited to a spare room, and the kitchen during very severe weather.

The boxes having been prepared, the cuttings are to be made from the first to the fourth week in August. Shoots having three good joints and not very far apart are to be cut transversely below the lowest joint with a sharp knife, and the leaf there removed, and probably that at the joint next above it as well, but that will depend on the length of the cutting and closeness of the joints. The cuttings may be from 4 to 6 inches in length, and a joint and the growing point should be left after trimming, retaining a good joint below that for insertion in the soil to the depth of a couple of inches, or up to the lowest leaf. Insert the cuttings 1 inch from the sides of the box and 1½ inch apart every way, and up to the joint of the cutting whence the leaf was not removed. Give a good watering, and set the box in an open situation in the full sun, and if there is a place hotter and more exposed to the sun than another give that the preference. Do not give more water than is sufficient to keep the soil moist, and none if the weather be at all wet or showery. As to shade do not think of it, for the sun will assist in making the cuttings hard for the winter.

When the large leaves have become dried up and withered, pick them off, and towards the end of September remove the boxes to a sheltered wall or fence where the plants can receive the full benefit of the sun, and be protected by mats or other coverings from any frosts that may occur previous to November. So long as the cuttings do not flag they should not be watered, but if they do so, and the wood seems disposed to shrivel, give enough water to show itself through the openings of the joints of the boxes.

Early in November the boxes are to be placed in their winter quarters; any unoccupied light airy room having a southern aspect will answer, and so will the inside sill of a window, except in the case of severe weather, when they must be placed in a room from which frost is excluded—a kitchen, for instance, keeping them there as long as the severe frosts last, but giving the plants the benefit of a fine day by placing them near the light, and admitting a little air. Until April they merely require the lightest and most airy situation possible consistent with their safety from frost and the exclusion of currents of cold air. As to water, it is sufficient that the leaves do not flag, and if they turn yellow and otherwise show symptoms of decay, pick them off at once. If, however, the leaves flag and show other signs of a deficiency of moisture at the root, then it will be well to give during mild weather enough

water to keep the stems from shrivelling and the leaves from flagging.

In March, if the weather is mild, the plants will begin to grow, and should be watered more freely; and during sunny days and mild showery weather, it will be very beneficial to place the boxes outside under a wall for a few hours in the day, returning them to a place of safety at night. This mode of treatment is to be continued until the middle of April, when a bed should be made of dung and leaves to a height of from 2 to 2½ feet, and covered with 4 inches of turfy loam two-thirds, and leaf mould one-third, the frame having previously been placed on the bed. In a few days the leaves and dung will have heated sufficiently to warm the soil through. If the heat be more than the hand can bear, the plants must not be put in until it has declined to a gentle heat of 70° or 75°. Then the plants are to be taken out of the boxes, and planted in the bed, cutting all roots to within 1 inch, or 1½ inch from the place whence they take their rise. The plants may be put in 3 inches apart every way. A frame of two lights, 6 feet wide, 7 feet long, will hold upwards of six hundred plants. After planting they are to have a good watering, but not a soaking, and the lights should be put on, and kept close, and if shaded for a few hours during the hottest part of the day, the cuttings will quickly form roots, and commence growing. Their points, if not previously taken off, are to be removed at once, which will cause them to become stiff and branching. A sprinkling of water early in the afternoon will be of advantage, but heavy waterings are to be avoided. None should be given at the root until the soil evidently requires moisture; then afford enough to moisten the mass.

When the plants have made shoots an inch or two in length, gradually admit air; in fact, admit it plentifully, and by the middle of May if all has gone well, strong vigorous plants will be the result. The frame may now be removed and placed on a bed of leaves and litter, as in the former case, the bed being covered with soil as before. When the bed is no more than warm turn out in it any plants of the variegated kinds which there may be in boxes, treating them in precisely the same manner as the first, and with the mild bottom heat they will speedily emit roots plentifully, and grow rapidly. By the beginning of June they will be sufficiently advanced for hardening off, by admitting more air gradually until the lights can be entirely withdrawn. On the removal of the frame, sticks should be bent over the plants so that on frosty nights mats can be thrown over them, and in severe nights it will be necessary to cover the frame with mats to protect the plants from frost.

The frame, then, will be of no service whatever to the Geraniums until spring, and even then it may be used for the raising of half-hardy annuals, the plants being retained in the boxes up to the time of planting out, the points of the shoots being taken out in March. The supply of water should be increased as growth may render necessary; as a rule, no water should be supplied until the soil requires it. After March, however, keep the soil moist, but not saturated. After the middle of May the plants may be kept outside day and night in a warm situation, protection being at hand to cover them on frosty nights. The plants in this case may be planted out from the boxes towards the end of May, taking them up with all the root practicable, and a good watering being given they will soon become established. In this case the frame will be dispensed with so far as the Pelargoniums are concerned, and that is all the better, as it may then be used for other purposes. The plants, however, will not fill the beds so soon, whilst those transplanted from the boxes into good soil on a mild hotbed may be removed with balls of earth at their roots, and will make a good show by the beginning of July.

I have omitted to mention, that a box 3 feet 6 inches long, and 7½ inches wide, will hold five rows of cuttings, and twenty-eight in each row, or 140 cuttings in all. The boxes can be made of any length and width desired. The dimensions previously stated are the sizes used by myself; not that I winter my plants in windows, for I am favoured with glass, but I took the pattern from some boxes that were made and used in the manner already described, being in length the exact width of the windows. I manage to squeeze 150 cuttings into each box, and this year, owing to want of room, they were planted out direct from the boxes, and have done well.

I do not think it necessary to say anything as to putting in the cuttings in pots, for these take up much room, and the plants are no better, if so good, as those inserted in boxes.

The varieties which I would recommend are Stella, Tom

Thumb, Little David, and Crystal Palace Scarlet, of the scarlets; pink, Christine; white, Madame Vaucher; and Bijou, as a silver-edged Geranium. There is scarcely a dwelling in which a boxful of each of these, and in many cases twice that quantity, could not be wintered. I may add that any injury to the window-board may be prevented by placing the box on a piece of zinc.

The earlier the cuttings are put in after this appears the better. The wintering of old plants will be treated of in another article.—G. ARNEY.

VISITS TO GARDENS PUBLIC AND PRIVATE.

MR. FRASER'S, LEA BRIDGE NURSERY.

THERE is unquestionably a vast deal of difference between the north and south of London. Go five miles away from the General Post-office on the south side, and you feel you are still in London; suburbs are there which contain a good deal of the "urbe," but very little of the "rus;" bricks and mortar predominate over trees and shrubs, and you involuntarily ask, "Where does London end?" But go the same distance on the north side, and you are among hedgerows and meadows, and quaint old country houses, unknown on the south side, and, despite railways, you feel that the people there enjoy a vast deal more quiet than they do elsewhere. So I felt, at least, as on a warm day in July I committed myself to the tender mercies of the Great Eastern, and finding myself safe at the Lea Bridge Station, walked along the road that leads to Epping Forest. There was plenty of life; there were pleasure parties making their way to that favourite resort; there were vans full of Sunday-school children from the crowded city, making their way to scenes of which they had been dreaming for the last six months, and which will afford them matter of talk for the next six; but with all this there was a quietness one in vain looks for at the same distance along any of the lines that go south out of London. It seemed the very place for a nursery; and I felt sure that the fame which Mr. Fraser's nursery has so long enjoyed would prove not to be undeserved. The soil was good, and the situation all that could be wished.

In their general features all large nurseries must be somewhat alike. Each proprietor has some speciality, for which he has made his name famous; but in their general features—their fruit and forest trees, their bedding and greenhouse plants, there is great similarity. Mr. Fraser has of late years been distinguished for his new Roses, Pelargoniums, Azaleas, and greenhouse plants; but of the last he has no longer the large stock of magnificent plants that he used to have. Finding it impossible to grow everything, and seeing that the sale of new plants, was more profitable than keeping up a large number of unwieldy specimens, he this spring disposed of them by auction, and has since turned his attention more to the production of larger numbers of smaller plants. July is not the month for greenhouses, and therefore my observations were confined to plants out of doors, notably to the Roses. These were still in fine bloom, and most of the varieties of the present and former years were to be seen amongst them. I noticed as very good *Joséphine Beauharnais*, of which I have already spoken; *Mademoiselle Marguerite Dombain*, this had all been cut away, as the foreman considered it one of the very best of the year, and had therefore determined to propagate as much as possible of it; *Prince de Porcia*, a very bright-looking and excellent flower; *Alba Mutabilis*, pretty and distinct; *Alfred Colomb*, excellent; and *Jean Cherpin*, very good and rich flowers. Of those of the previous year there were fine examples of *Marie Boissée*, a Rose I had not seen before, light-coloured and good; *Semiramis*, another light-coloured Rose, very much like *Rosa Mundi*; *Duke of Wellington*, a beautifully rich-coloured flower, but somewhat uncertain, I fear; *Docteur Andry*, a beautifully-shaped and good Rose; *Marguerite de St. Amand*, a lovely Rose, and when well grown a most valuable addition to any collection; *Madame Elise Vilmorin*, somewhat rough, but a very showy Rose in a garden, though hardly fit for an exhibition stand; *Madame Charles Verdier*, a beautiful light-coloured Rose. I have not found it very vigorous with me, but it seemed to be so here. Of the older Roses there was a very large collection, and Mr. Fraser had that very day been performing the disagreeable but necessary process of consigning to the dunghheap a large number, which are now only cumberers of the ground, however much they may have been esteemed formerly. All the plants appeared in excellent condition, and free from that horrid black spot which has so

greatly injured my own plants, and which I have never seen so virulent as it has been this year.

I have rarely seen better beds of *Gladiolus* than Mr. Fraser has this year. They were in apparently the most healthy condition: and as the surface of the ground was neatly covered with cocco-nut fibre it kept them cool, and at the same time gave a great appearance of neatness to the beds. It does seem very strange that so little encouragement is given to this fine autumnal flower about London. I was looking through the list of prizes offered by the Royal Horticultural Society at their Saturday shows, where they seem to be desirous of bringing together everything they can; and although *Asters*, *Dahlias*, &c., were included, the *Gladiolus* is left out. It is a great matter of complaint that provincial towns should be so far beyond the metropolis in their appreciation of this noble flower, the varieties of which are each year increasing in beauty and in those properties which a florist delights in.

In common with most of our leading nurserymen Mr. Fraser has a large selection of *Zonale* and *Nosegay* *Pelargoniums*. In one large bed he has a large number of the newer sorts arranged for comparison. Amongst the most conspicuous were *Leonidas*, *Julius Cæsar*, *Marie Rendatler*, *Diadem*, *Madame Werle*, *Emile Lican*, *Chieftain*, *Commissioner*, *The Clipper*, and *Excellent*. I hope to have an opportunity later in the season of entering on the merits of this class of flowers, now so popular, when I have had the opportunity of noting them in other places as well, and making comparisons with those in my own garden and Mr. Banks's. Their name is legion, and we must weed. Let me say here, however, that by far the best bedding *Geranium* of the scarlet class is one sent out some three years ago by Mr. Bull, of Chelsea, called *Editor*. I have used it this year as a back-row flower in a border, and in brilliancy and profusion of bloom it far exceeds *Attraction*, *Crystal Palace Scarlet*, &c. Its habit is sufficiently dwarf, and it has been greatly admired by all who have seen it. The leaf is plain, or with the very faintest trace of zone possible, and thus, as Mr. Robson will tell us, it is better for effect than if it were zoned.

There were some very beautiful things amongst the foreign introductions, especially amongst *Pentstemons* and *Delphiniums*. Amongst the former I was particularly pleased with *Maitre Guérin*, *Paul Racouchot*, *Laurence*, *George Brunt*, *Richard Lenoir*, *Charles Klein*; and amongst the latter with *Triomphe de Pontoise* and *Henri Jacotot*. The main fault to be found with the *Pentstemon* as a garden flower is that the bees seem to revel in it from the abundance of pollen, and in coming out again dust all the centre of the flower, so as to make it look dirty.

Lapageria rosea is here in great beauty, and was, when I saw it, producing its seeds very freely. Mr. Fraser has for some years been able regularly to save a large quantity of seed. Each pod produces about fifty seeds, and when sown they come up as regularly all over the pan as if they had been cuttings inserted; and as the pods were hanging all over the roof, there must be thousands of seeds there now. I saw also large quantities of nice plants of *Clianthus Dampieri*. *Azaleas* and *Vines* looked remarkably well. The ground was very well kept—no easy matter in such a summer as this has been.

It would be tedious to enumerate all that I saw at this well-known nursery. Suffice it to say that it is well worth a visit by all who care to see a well-ordered nursery, and one where at all times novelties of some sort will be sure to be seen, and where they will always, I venture to say, receive the most courteous attention from Mr. Fraser.—D., Deal.

P.S.—Since the above was written I have received the *Crystal Palace* schedule for the autumn show, and am glad to find that the authorities, as usual, have been the first to anticipate the wishes of the floral public by greatly increasing their prizes for *Gladiolus*.—D.

TULIPA SYLVESTRIS.—"A SURGEON'S WIFE," quoting (page 64) Smith's account of *Tulipa sylvestris*, and adding from some private source of information its Yorkshire home "between Hexthorpe and Sprotborough boats," asks some Yorkshireman to enlighten her as to the meaning of the word. This I can easily do, as I live on the spot. The fact is, she has misread or misheard the word. There is no such word in the Yorkshire tongue, that I know of, as "boats," but in the meadows between Hexthorpe and Sprotborough boat there are many wild *Tulips*. The spot called Sprotborough boat, or boats, is where the old ferry was across the river Don, but now

no longer a ferry, but a handsome bridge, the munificent gift of Sir Joseph Copley to the neighbourhood.—A YORKSHIRE INCUMBENT, between Hexthorpe and Sprotborough boat.

LORD CLYDE STRAWBERRY.

In the Number of July 24th, Mr. Gloede states that Lord Clyde Strawberry is "nothing else than the old Chinese, in France commonly called Ananas." Now, as I believe I know as much about Strawberries as Mr. Gloede, and that my opinion stands as high as his, I unhesitatingly say that he is wrong, and that Lord Clyde is a much superior Strawberry, and was one of a batch of seedlings raised from a cross between Sir Harry and Carolina Superba. I grew it for three years before sending it out, and I still grow it. Unfortunately runners from some barren plants were mixed with those from fruiting plants, and so, many barren plants are in existence; for at that time I was not a firm believer in the opinion that all such plants should be rooted out, but I am now fully persuaded that they should be, and every barren plant throughout my collection has been destroyed this summer.

I sent a strong plant or two to Rushton, and asked the Rev. W. F. Radclyffe to grow it, and give me his opinion of Lord Clyde, and I was favoured with two letters; and although I have not his permission to publish them, I am sure he will only be too glad that I should have the opportunity of putting myself right before the public, and I therefore enclose the letters for your perusal, also one from Dr. Hogg. You will see that Mr. Radclyffe speaks very highly of Lord Clyde, and his opinion and the advice of friends led me to send it out.

M. Van Houtte, in my opinion, was wrong in stating that Mr. Radclyffe had described it as "the most valuable Strawberry ever known," as he never did so. That M. Van Houtte should regard Mr. Radclyffe's opinion with respect is simply to do that which all are in the habit of doing who know Mr. Radclyffe personally or by reputation; and who does not?

Every Strawberry-grower knows that some sorts will not do everywhere. Look at *La Constante*, for instance. I have repeatedly seen this struggling for an existence and making but very few runners. The other day I met with it at Gargrave in most luxuriant growth, and loaded with fruit. In the same garden Lord Clyde was promising well—a good-sized handsome fruit. There also was *Marguerite* in fine trim; whilst in another garden a few days previously I saw three rows of it, and two-thirds of the plants barren.—WILLIAM DEAN, Shipley, Yorkshire.

SOWING POLYANTHUS SEEDS.

For the benefit of a correspondent in the Journal of the 24th ult., I may state that if *Primrose* or *Polyanthus* seed be sown immediately in a warm stove, and the seedlings cultivated till large enough to plant out, most of the plants will flower next April. It is curious that the *Polyanthus*, an indigenous British plant, will flourish in a close warm house for months, nay, I believe all the year round—I mean, of course, as to leaf growth. Mr. Beaton found that it was the same with *Cyclamens*, which are now cultivated thus on a large scale. Of course skill must be exercised in order to obtain a successful result.

Sow in pans, soaking the soil first with water; place them in a shaded part of the house, cover them with a pane of glass, and prick-off the seedlings as soon as possible into other pans; when the young plants have made four or five good leaves, harden-off at the back of a north wall for a week or ten days, and plant out in time to secure growth in the open air before winter.

I have sown *Primrose* seed in July, and flowered a few of the stronger plants in October of the same year. Of course this, like other go-ahead systems, requires attention to many little points of good gardening, which would take too much space to detail here.—R. T. C.

ORCHARD-HOUSE FRUIT.

ORCHARD-HOUSE fruit is now grown so extensively, that means might easily be taken to decide a vexed question—namely, whether Peaches grown in orchard-houses are superior or inferior to those grown on walls. The Royal Horticultural Society might offer a small prize for the best three Noblesse

Peaches, to be judged by flavour only, size and colour being disregarded. The prize to be open only to fruit grown in one or other of the two following ways:—1st, In pots in a glass structure, without ever having been exposed to the direct rays of the sun in the open air. Andly, Grown on a wall without a glass screen at any period of their growth.—G. S.

ON RAISING PEACHES, NECTARINES, AND OTHER FRUITS FROM SEED.

[The following paper was one of those presented by Mr. Rivers to the Botanical Congress, and will doubtless be read with much interest by horticulturists generally, and especially by those who are making experiments in the amelioration of races by seed.]

It is now some forty odd years since I entertained a peculiar theory that my old varieties of fruit had formed themselves into species, and would reproduce themselves from seed. I was well aware of the then existing practice of T. A. Knight in cross-breeding, and also the theory of Van Mons. I suppose I wished to be original, and to make myself famous, and so I commenced operations by taking the Golden Pippin, and, ignoring the works of the bees and the winds, in conveying foreign pollen to the blossoms of fruit trees, unless carefully protected by fine gauze or some other light material, I gathered some fine fruit from a Golden Pippin tree of great age, and sowed their pips. In the course of a few years the young trees raised from them bore fruit. Alas! for my theory: they gave me Apples, but not Golden Pippins—no, not one. Some, it is true, were Apples of a yellowish tinge, but very unlike in size, shape, and flavour, to what I hoped. Some pips of the Ribston Pippin, sown the same year as the above, in due time produced trees, and the trees fruit; but in this instance the children were still further removed from the likeness of the parent, for they were Apples of all shapes and sizes, and not one bearing any resemblance to our favourite Apple, the Ribston Pippin. In carrying out my idea, I soon after this sowed pips taken from the Autumn Bergamot Pear, the fruit gathered from a very old tree, its age estimated at 300 years; now, as this sort is supposed to have been in cultivation in England ever since the time of the Roman occupation, I looked forward with some hope as to what kind of Pears my seedlings would produce. I was to a certain extent gratified, for my seedling Autumn Bergamot Pears were all Bergamots—i.e., they had the peculiar flattened shape in which we recognise that variety. One, in particular, was most remarkable: it was a monstrous Bergamot, with the true shape and russet coat of its parent; its flavour, however, was not up to the mark, and although gratified to find an adherence to race according with my theory, I did not gain that which I hoped for—a hardy, free-bearing, improved variety. I may, however, except one raised from the same source a few years afterwards. This at first was dry and poor in flavour, but has annually improved in quality, so that from its hardiness and fertility it may be considered worthy of cultivation. Although disappointed with my experiments with Apples, I was a little comforted by the adherence to race in my Bergamot Pears, and I continued my experiments by sowing Green Gage Plums, the opportunity happening in this wise:—Before our country was gridironed with railways, there used to be occasionally what is called a glut in the markets of perishable fruits, such as Plums, which could not be sent to long distances on account of their ripeness, and the supply being too large for the London consumption, many hundreds of bushels were often destroyed. Taking advantage of one of these gluts I once bought in Covent Garden a great number of bushels of Green Gage Plums, at 1s. 6d. per bushel; the stones of these were sown, and produced many thousands of trees. I watched these young trees for some years with much interest; the greater part of them had the habit of their parent, and were to all appearance Green Gage Plum trees; some of them were, however, remarkable for their small leaves and spines, being more like Sloes (*Prunus spinosa*) than Plums. It seemed to me as if the Green Gage had returned to its normal state, that of a small green wild Plum. In process of time a great number of these seedlings bore fruit; all that did so gave green fruit, but not one among them a superior sort worthy of a name. This adherence to race gave me much satisfaction; still I must acknowledge that since I sowed the large quantity of stones just mentioned, I have found a few only have produced a tree bearing purple Plums, thus showing that the ad-

herence to race was not to be depended upon. Still clinging to my original idea, that an improved variety of a favourite kind of fruit, with all its good qualities but with a thorough adaptation to our climate, might be raised, I took in hand another very old kind of Plum, which has been cultivated in the Touraine for many ages, and probably rivals the Green Gage as to the period of its production from seed. This is still well known as the *Précoce de Tours*. The trees of this variety, from the fruit of which I hoped to have raised an improved race, were very large, having been planted by my grandfather, and stood so isolated that I hoped to raise seedlings from them, unstained by any other variety. They caught my attention from the curious fact that they bore a fair crop only about once in five years, their blossoms being delicate and generally suffering much from our spring frosts. It is now many, many years since I selected some fruit from these trees, and sowed their stones. In the course of time the trees raised from them bore fruit, and, to my great delight, they were like their parent in colour and shape, varying only in size. One among them realised the idea I had so long entertained, that of reproducing the parent fruit with a constitution adapted to our climate. This was named the *Early Prolific Plum*, and is neither more nor less than the *Précoce de Tours*, vigorous in habit and abundantly prolific. I felt, and still feel, amply rewarded for my almost obstinate adherence to a somewhat speculative theory, and for many years of careful culture. I must not leave this remarkable variety of Plum without mentioning that I have lived to raise from my first seedlings three generations, none of them departing from the original parent in shape and colour, but varying much in quality. One among them, the exact form and size of its great-grand-parent, bids fair to be of much value; for, whereas the *Early Prolific*, and other seedlings from the same source, ripened in 1865 about July 28th, this, although the tree stood on the north side of a hedge, in a shady place, ripened its fruit on July 14th; so that by continuing to breed from one race, generation after generation, I have raised the earliest Plum known.

So attractive to me has this race of Plums been, owing to its singular and rigid adherence to race, that it seems now, in my old age, to have been the greater portion of a life's pleasant study, still incomplete; for young trees of the fourth and fifth generation of the original trees of *Précoce de Tours* exist here, and are likely, are long, to bear fruit. At the earliest period of my essays in raising seedlings from old varieties of fruit, I sowed stones of the *Noblesse Peach*, and planted the young trees they produced against a wall; in the course of eight or ten years they all bore fruit; all were so like their parent as not to be distinguished from it.

Soon after the introduction of orchard-houses my attention was attracted by the facility with which young trees of Peaches and Nectarines could be made to bear fruit in pots. I at once determined to raise large numbers of trees from stones, and to carefully record the origin of each tree. My old instinct again came to the surface, and I fixed upon some of our most ancient varieties, intending to breed from generation to generation. Nearly, if not quite the first variety I took in hand was the *White Nectarine*, for I considered it as belonging to one of the oldest of all races of Nectarines, a white Nectarine being mentioned in the "*Paradisus Terrestris*" of Parkinson, upwards of two hundred years since; traditionally, it came from Asia, and probably from Northern Syria, the habitat of another kind of Nectarine equally distinct in character, the *Stanwick*. My first family of seedlings from the *White Nectarine* seemed, when the young trees blossomed, marvellously alike, and I began to look forward to another generation before I should find much change. I was now, however, agreeably disappointed, for among my little family of quasi-*White Nectarine* trees, I observed a large white Peach, which, although a Peach in appearance, had the racy brisk flavour of its parent. This remarkable production aroused my attention, and from the first fruit it produced, the stones were taken and sown; several of the trees raised from them bore fruit when four years old; the greater number of them proved to be white Nectarines, thus returning to the nature of their grand-parent the *White Nectarine*. Much, however, to my gratification, two of them produced Peaches; one about the size of the *Noblesse Peach*, and of the same colour, but ripening so early, that in 1864, when its first fruit was presented to me on July 14th, quite ripe, I could scarcely believe it to be true, as the *Red Nutmeg Peach* was at that time quite hard; in 1865, its fruit ripened July 18th, and I then felt satisfied it was the earliest large Peach known. The other Peach which made its appearance among

the third generation from the Nectarine, as above mentioned, proved to be a large pale-coloured variety, ripening in the middle of September.

Both these kinds of Peaches retain the flavour of the race, being remarkably piquant and agreeable when well ripened. From the experience thus gained, I feel convinced that to the White Nectarine we owe those pale-skinned Peaches, the Noblesse, the Malta, and the White Magdalene, all remarkable for their brisk flavour, and equally so for retaining in the trees the peculiar character of the White Nectarine, producing large pale flowers irregular in their shape.

My next essay, to "breed in and in," so as to establish a race of Peaches, was with that large handsome but, in England, worthless clingstone Peach, the Pavie de Pompons. The first generation gave me one Peach, producing large flowers like its parent, but with a melting rich flesh perfectly its converse. This was named Princess of Wales. Another seedling of this generation proved to be a small-flowered sort, its fruit of medium size, skin pale yellow, and flesh so sweet (without the usual Bitter Almond flavour of most Peaches), as to be too luscious. Here was at once a wide departure from the type in all respects, except the size of the flowers in Princess of Wales. Not at all "put out" by the vagaries of the first generation, and still hoping to raise a Peach as large as the Pavie de Pompons, with tender flesh, and, like that, a good keeper, so that in a well-managed fruit-room good Peaches might be preserved till November, I selected some fine fruit of the Princess of Wales, sowed the stones, and waited patiently. One of the first of this third generation produced, in September, 1865, such late Peaches as never before gladdened my eyes. One fruit measured 12 inches in circumference, its flesh melting, but firm and rich. This I felt to be a great triumph, and as he was then happily with us, I named it Lord Palmerston.

That well-known Nectarine, the Pitmaston Orange, next attracted my attention. Mr. Williams, of Pitmaston, always stated that this was raised from the Elruge Nectarine, a variety so diametrically opposite in flowers and fruit, that I felt a strong wish to try and reproduce its parent, by going through two or three generations of seedlings. The first generation consisted of some twelve or eighteen seedlings from the Pitmaston Nectarine, the parent tree growing in a pot in my orchard-house. I ought, perhaps, to have said that all my seedlings have been raised from fruit taken from my orchard-house trees, upwards of one hundred varieties growing in a house 100 feet long and 24 feet wide. All the trees of this generation, except one, gave orange Nectarines, like their parent; the trees also produced those large brilliant flowers peculiar to this sort. All, except one, I have said, and this to me was a remarkable exception, it was a large crimson Peach, the tree producing small deep red flowers instead of those large brilliant ones borne by its brethren. I felt doubts, and concluded that a Peach stone must have been by accident planted with the Nectarine stones. To try and solve my doubts, I at once determined to take particular notice of this Peach, to sow its stones, and to watch carefully what they would bring. Out of about twenty trees raised from them, the greater part bore Peaches like their parent, the trees also producing small flowers; but, to my great satisfaction, two of them bore orange Nectarines like their grand-parent, and the trees have the same large flowers; but the most remarkable fact in this experiment was, that two trees bore white-fleshed Nectarines, a little red at the stone, like the Elruge Nectarine, their great grand-parent, and the trees, like that variety, gave small flowers. Now, here was a strange and most interesting event in pomology. A white-fleshed Nectarine, the Elruge, with Mr. Williams, had produced a seedling with orange-coloured flesh (the Pitmaston), that had in its turn produced here a large white-fleshed Peach, and stones from that Peach have produced trees with the characters of four generations—viz., the Elruge Nectarine, the Pitmaston Orange Nectarine, the Peach (a child of the latter), and again the Pitmaston Orange Nectarine.

The Psalmist might well exclaim, "How wonderful are Thy works!" The horticulturist who thinks and works—they are too often far apart, that thinking and working—must feel those few words always uppermost, always rising. I must not leave that fertile source of interest, the Pitmaston Orange Nectarine, without adverting to one more curious fact. I have said that the greater portion of my first generation of seedlings from it were like the parent; there was one, however, which ripened ten days later, and had transparent flesh, so that it was named the Fine Apple Nectarine. I was interested in this sort, feeling that it was inclined to leave the characters of the type. I, there-

fore, raised a number of seedlings from it; they are young, being only four years old. Yet, one among them bore some fruit last year (1865), of a most remarkable character—a Peach of the largest size, with its skin green and beautifully marbled with red; its flesh of a pale lemon colour, melting, and much like a Nectarine in flavour. This peculiar Peach ripened September 30th, 1865, and was at once dedicated to Lady Palmerston.

There is a very old kind of Nectarine, known to pomologists as Fairchild's Early, a small yellow-fleshed sort, not larger than an Orleans Plum. Now, although this sort has been in cultivation for 150 years, yet no gardener seems ever to have thought of improving it by raising seedlings from it. As it is the earliest of all Nectarines, and as a good, very early Nectarine is still lacking, I turned to it with much interest, and hoped to improve it in size and earliness, so as to create a new variety worthy of cultivation. My first generation consisted of some ten or twelve young trees; they all bore fruit in due course; and were all like the parent in leaves, flowers, and fruit. The latter varied slightly in size, but on the whole they were neither more nor less than reproductions of the parent. I confess to some little disappointment, but, encouraged by the facility of inducing young trees to come into bearing in a comparatively short period, by cultivating them in pots in my orchard-house, I selected some fruit from the seedling trees, sowed their stones, and again looked forward to the result. In 1865 I was, as far as regards curiosity, greatly rewarded, for no two trees of this second generation produced fruit exactly alike. Some gave orange-coloured Peaches, one or two remarkably rich in flavour; some orange Nectarines, as large as the Pitmaston, but quite different in flavour; and, most strange of all, some gave Peaches of medium size, with rosy cheeks and flesh white and melting, like that of the Noblesse Peach. I failed in my object in obtaining a very early kind of Nectarine, but at once some stones were selected, and trees of the third generation of Fairchild's Early Nectarine are now in full growth. One very remarkable fact attended this experiment: the trees, when in blossom in 1865, were all like their grand-parent, so that I was quite unprepared for the curious transformations I have above described. The following singular changes have taken place here. The Roman Nectarine, a variety which has been under cultivation in England for 200 years, has produced from seed a nice bright red melting Peach. George the Fourth Peach, an American sort, in the first generation gave a late green Nectarine. It is well known that American Peaches in their own country, seldom or never produce Nectarines; it is, doubtless, owing to the trees being confined in a house, and standing very near together, that such remarkable changes have taken place here.

Among other curious gains that have occurred—too many to mention in detail—I may mention that a stone of Hunt's Tawny Nectarine has produced an early Peach, full-sized, and of the most delicious flavour, but without any yellow tinge in its flesh. This has the true Nectarine flavour, which I may add is very common to Peaches raised from Nectarines. The Royal George and Shanghai Peaches have produced melting Peaches, with deep yellow flesh. The Early York, from which a great number of seedling trees were raised, reproduced itself with but little variation, with one exception, which is a tree with round glands, consequently not liable to mildew. Its fruit is of the most exquisite flavour, and as early as its parent. The Hardwicke Nectarine, which has large flowers, has produced from its seed a Peach of the most decided Nectarine flavour; moreover, the tree gives small flowers.

I must, however, desist from giving a further record of other strange transformations; they have been too numerous for a paper on the subject, occurring, as they have done, among upwards of 250 seedling Peaches and Nectarines. I feel, however, constrained to mention one more curious fact. I have had some fine bearing trees of seedling Stanwick Nectarines, differing but slightly from their parent, for this sort adheres rigidly to its race for two or three generations; they were growing in a house in which were some trees of the Elruge Nectarine. Some stones of the latter were sown, and, as nearly as possible, the sort was reproduced, but they were Elruge Nectarines with the Stanwick flavour. This is not a solitary instance of a new kind of fruit imparting some of its qualities to fruits raised from seed, without artificial impregnation. The bees, always very busy in orchard-houses, fertilise numerous flowers; hence the great variety in Peaches and Nectarines raised from the stones of trees growing in them. I must not omit to mention one more curious fact. The Baggowen Nec-

tarine, a sort highly esteemed, has produced from seed a Peach, rather small, but of the most delicious Nectarine-like flavour. Apricots raised from the stones of trees grown in orchard-houses have not given, and cannot be expected to give, the immense variety that Peaches and Nectarines produce; still, out of some scores of seedlings no two can be found exactly alike. The only beneficial variation that can be hoped for is in the time of ripening, so as to have varieties earlier and later than we have at present; for no Apricot can be of much higher excellence than the variety known as the Peach Apricot.

Some progress has, however, been made; a seedling tree from the Red Masculine, one of the oldest and earliest varieties known, has given fruit larger and equally early, and a seedling tree from that curious, delicate-growing small Apricot, the Musch Musch, has given fruit much larger than its parent, and so full of delicious fragrant juice as to be, if possible, more grateful than the Peach Apricot. The Saint Ambroise, a variety rather early, has produced a seedling, the fruit on which ripened fully a month later than any other kind; and, to conclude, the Large Red or Gros Rouge has given a seedling tree, the fruit of which ripened a full month before that produced by the parent tree. There is, therefore, some hope that in time a new race of Apricots may be produced, differing in quality and season from those at present under cultivation.

It will, I think, be seen by those who venture to read this paper, that my original and rather eccentric idea—that old varieties of fruits would reproduce themselves in an improved form if successive generations were raised from seed—has, to a great extent, been realised. My prevailing feeling is that of surprise that European, and more particularly English cultivators, have suffered many ages to pass without carrying out that which I have attempted; the idea seems to me so simple, and of such great interest. If all that I have done had been attempted a century ago, what progress would have been made in fruit culture! I ought, perhaps, to state, that in this paper, fearful of fatiguing the reader, I have given but a mere abstract of my experiments. A time may come, if life is spared, when I shall give more fully all that I have learned. I have a vague suspicion that our tender kinds of fruit, that blossom very early in spring, may be improved in hardiness by close attention to the form of the petals. Early in May of this year (1886) we had here 5° of frost; the weather was dry, and no injury seemed to have been done to the blossoms of some Cherry trees which I had under close observation, the germs were green, and the petals uninjured. I observed, however, that the extreme points of the pistils were killed from the petals being thrown back, fully expanded, so as to leave them exposed. The germs swelled, and I quite expected the fruit would come to perfection. Instead of this, however, all that were marked dropped off shortly afterwards. I confess to being disappointed in this, for I had calculated that complete fertilisation had taken place, and that no injury from a slight frost could then injure the fruit.

While making observations on these blossoms my attention was drawn to others, the petals of which were incurved, so as to protect the pistils; this slight protection preserved them from injury, and the fruit set healthily, and remained on the trees, swelling gradually, and bidding fair to ripen properly. On observing this I could not help theorising, and asking myself the question, Would it not be possible, by careful attention for a series of years, to originate varieties of fruits from seed, giving blossoms with large incurved petals, so as fully to protect the parts of fructification? The idea may be in the clouds, but when one reflects on the licence which Nature gives us in allowing us to assist her by our art, we ought not to think it impossible.

I have devoted many, many years to the raising of seedling fruits—have, as a matter of course, met with many disappointments, but also much gratification; there is, as I have found, much pleasure in watching, from year to year, the character of a seedling; it is true that, after much promise, there is often a failure, but with me it has always acted as an incitement to try again. At this moment I have hundreds of seedlings of all kinds of fruits; some from fertilised flowers, showing interesting features of cross-breeding; and many others raised from old and esteemed varieties, with my old hope partly fulfilled—that new varieties, with all the excellent qualities of the old, may and will be originated and, as it were acclimatised, like the Early Prolific Plum and its descendants, which are neither more nor less than hardy varieties of the *Précoce de Tours*. It is, I fear, too true, that neither a Peach, Nectarine, nor Apricot will ever be originated with blossoms fully capable

of resisting our spring frosts, for even the common Sloe of our hedges succumbs to them; but it is quite probable that Peach trees, bearing fruit equal in quality to our old favourite, the Grosse Mignonne Peach, will be produced of a more hardy nature than the old sort; in fact, I have more than one proof of this here; to obtain this result, only the most robust-growing seedlings from old varieties should be retained. Again, much improvement will yet take place in raising early and late varieties. I have reason to believe, from what I see daily, that large and rich-flavoured Cherries may be on our tables from early in June till the end of August; Plums from July till far in November; and Peaches, Nectarines, and Apricots in orchard-houses, from early in July till late in autumn. I may be accused of enthusiasm, but I look to the future for new races of fruits, with qualities far superior to the old, and the trees of so hardy a nature as to resist some of the unfavourable tendencies of our climate. I have formed this opinion on the solid basis of close observation during a lifetime devoted to the culture of fruit trees in all stages of their growth.

GOOSEBERRY SHOW.

HELD AT THE ANGEL INN, NORTHWICH, CHESHIRE, JULY 28TH.

THE following are the varieties of Gooseberries exhibited, their weights, and the names of the exhibitors:—

		dwts.	grs
Faithful Jameson.....	Red Seedling	17	18
George Plant	Yellow Seedling ..	13	17
Joseph Jones	Green Seedling ..	16	7
Thomas Pilkington	White Seedling ..	19	9
Thomas Lancelley	Twin's Stockwell ..	36	0
Joseph Jones	Premier Prize ..	26	4
T. Lancelley .. Red ..	Stewards' Prize ..	25	23
J. Wynne Yellow ..	ditto	21	10
T. Pilkington .. Green ..	ditto	22	10
S. Shone	White	19	2
F. Jameson .. Red ..	ditto	19	16
Thomas Foster .. Yellow ..	ditto	19	6
T. Dobell, jun. Green ..	ditto	16	12
G. Plant	White	18	1
T. Lancelley .. Red ..	ditto	23	4
J. Jones	Red	21	10
T. Lancelley .. Red ..	ditto	19	16
S. Shone	Red	19	16
S. Shone	Red	19	16
T. Pilkington .. Red ..	ditto	19	14
J. Wynne Red ..	ditto	19	12
F. Jameson .. Red ..	ditto	19	6
T. Lancelley .. Yellow ..	ditto	22	6
T. Pilkington .. Yellow ..	ditto	20	8
J. Wynne Yellow ..	ditto	20	12
F. Jameson .. Yellow ..	ditto	20	3
F. Jameson .. Yellow ..	ditto	20	1
J. Jones	Yellow	19	8
T. Pilkington .. Yellow ..	ditto	19	4
T. Lancelley .. Yellow ..	ditto	18	12
J. Wynne Green ..	ditto	23	2
T. Lancelley .. Green ..	ditto	20	9
F. Jameson .. Green ..	ditto	20	9
T. Lancelley .. Green ..	ditto	19	10
J. Jones	Green	18	20
T. Pilkington .. Green ..	ditto	18	12
T. Lancelley .. Green ..	ditto	18	2
T. Pilkington .. Green ..	ditto	18	1
J. Wynne White ..	ditto	22	5
J. Wynne White ..	ditto	22	2
T. Lancelley .. White ..	ditto	19	18
T. Pilkington .. White ..	ditto	19	12
T. Pilkington .. White ..	ditto	19	9
J. Wynne White ..	ditto	19	5
T. Lancelley .. White ..	ditto	19	2
J. Wynne White ..	ditto	19	0

STRAWBERRY SPORT.—It may be an interesting addition to the fact communicated by Dr. H. Thomas, of Chester (page 82), to state that in June last I gathered from the open ground a ripe Eleanor Strawberry of perfect form, from the side of which a minute but perfect plant had grown, apparently emitted from the skin of the berry. I deposited this curiosity on the dining table, intending to examine it more closely, and then to plant the whole, and watch the ultimate development of my little foundling. But alas! our servant, on serving breakfast, inad-

vertently threw it on the floor, where it was crushed, and my hopes vanished.—FERDINAND GLOEDE, *Les Sablons, Seine et Marne*.

ORCHARD-HOUSE TREES.

SOME years ago the leaves in my orchard-house rotted at their tips, just as those of "INQUIRER" (page 65). Like him, I showed them to the best living authorities, but could obtain no information. This compelled me to observe and experiment for myself, and the conclusion I came to was that after the morning syringing a drop remained on the tips of those leaves which hung down; that this drop killed and rotted the tip; and that when the tip died, the remainder of the leaf was sure to die back. Having arrived at this conclusion, I left off morning syringing, and substituted for it a good damping of the floor and borders of the house, repeating the same at midday during very hot weather. Since then the foliage has been all that can be desired, and there is even less red spider than before. If any one should object that all orchard-house authorities are unanimous as to the necessity of early morning syringing (provided air be given at the same time), and that no one has ever suffered from it except "INQUIRER" and myself, I frankly own that I cannot answer the objection, but simply record my own experience.—G. S.

WOBURN COTTAGE GARDEN SOCIETY'S SHOW, AND COTTAGE GARDEN SOCIETIES IN GENERAL.

IN these times the gardening and the general press show no want of attention to exhibitions, whether international, metropolitan, or provincial, that have for their main objects the advancement of horticulture, and the gratifying, instructing, and elevating the minds of the visitors. Notwithstanding the efforts which have been made through the pages of this Journal, and the shows for working men held in the most densely inhabited parts of the metropolis, there has not, however, as yet been, even among our philanthropists, a due recognition of the love of gardening, the love of flowers for their own sake, the love of the beautiful in all its forms, as among the quietest, most unobtrusive, and yet most successful means of refining the manners, improving the morals, and enlightening the intellects of the labouring classes.

I wish every success to the village lecture and the powerful arguments of the orator against idleness, filth, and immorality; but I have even stronger faith in the power of the silent undermining of prejudices by the every-moment sermon preached by a beautiful well-tended plant in a window—in the influence exerted upon heart and mind, when the idea gains firm hold that a flower-border near the door is better in every way than a nauseous dunghill or an ugly cesspool, both invaluable when kept in their proper place—at the greatest possible distance from the living-rooms, but when near at hand becoming the most fertile sources of uncleanness and disease. Only let such simple facts and elements of improvement be duly appreciated, and then our real exhibitions of cottage-garden produce when attempted will not be on such a small scale as they generally are—held in some retired place, and with the humblest attendant circumstances, prompting thus to little curiosity, and, from the small number of the visitors, exerting but little influence; and then, too, as in the case of some of our provincial societies, when the encouragement of cottage gardening forms a prominent part of the prospectus, we should not find the good productions of the cottager huddled into a corner, or placed in some little room by themselves, where very probably they are unnoticed by the great portion of the visitors. It should never be forgotten that a man's self-respect, without which there can be no true manliness of character, is greatly promoted by the consciousness that he is respected, and his doings noticed and approved of by others, and especially if those others are in a higher social position.

I had the pleasure of spending the greater part of the 25th of July at the Woburn cottage-garden *fête*, the tents being pitched in a large meadow close to Woburn, and the above forming either the second or third return of the annual treat. After making due allowance for the importance of having the Duke of Bedford as Patron; Lord Charles James Fox Russell as President; seven clergymen and three esquires as Vice-Presidents; Rev. J. F. Cumberlegg as Chairman of the following Committee—Messrs. Kinns, McKay, Wilson, Lewin, Ward,

Sprague, Sanders, Gilby, Manning, Woodcraft, Clarke, and Chapman—two the well-known managers of Woburn and Tingrith Gardens, and the rest chiefly heads of departments at Woburn, and merchants and tradesmen in the town and neighbourhood, all constituting a rare combination of patronage with working energy;—but after making allowance for all this, it seemed to me that the great success of the *fête* chiefly depended on the following circumstances and arrangements:—

First, That though there was a separate class for amateurs and gentlemen's gardeners, and though many fine things were thus shown for competition, and chiefly not for competition, greatly enhancing by their beauty and variety the interest of the Show as a whole, you were never allowed to lose sight of the fact that the encouragement of superior cottage gardening was the main object contemplated in the meantime, whatever the Society may aspire to in the future. Right or wrong, the fact remains, that many who will not themselves exhibit, and who will not allow their gardeners to exhibit, nor give the smallest encouragement in this direction, will yet heartily co-operate in stirring up competition and emulation among the holders of cottage gardens.

A second element of success may be found in the large area from which the Committee of Management attracted the materials for competition. As already hinted at, I have no great faith in the continuance of good results when such a Show is confined to a single parish or a limited district, for in this case something like heart-burning and narrow-minded envy are apt to steal in and take the place of a noble generous rivalry. That man is no stander-still, but is progressing in that which is good and true, who can thoroughly rejoice that others can do better than he. A wide area does much to shut out a caukering envious spirit. I can form little idea of the space thus influenced by the Society, but along with Woburn nearly thirty parishes were represented on the exhibition tables on the 25th ult. Judging from the number of clergymen who are Vice-Presidents, &c., I should imagine that almost every clergyman in these parishes would be a supporter of the Society. A goodly number of these gentlemen at the *fête* did give a tone and character to the assemblage. I am not aware of any reason why there should not be more parishes represented, if the seventh rule of the Society is complied with—namely, "Every parish in the Society shall subscribe not less than £1 before any of the cottagers in that parish shall be allowed to compete." To encourage such subscriptions, it is stated in the eighth rule, that a free ticket will be given for every 2s. 6d. subscribed.

As an evidence on the one hand of how well the Exhibition was managed, and on the other of the anxiety to have the different parishes represented on the winning cards, only one complaint was heard of, and that from those whom all would have been anxious to please—viz., That in the hurry to finish arrangements it had been forgotten to write on the winning cards the parishes of the successful competitors. This was all down in the Secretary's book, and would, no doubt, appear in the certified list, but then it did not appear to the mingled throng of nobility, clergy, gentry, and peasantry who crowded the tents.

A third cause of success is to be found in the large-hearted liberal resolves of the Managing Committee, that this little garden Society, besides affording an unusual pleasure to working men, should offer attractions to the higher classes to join them. For this purpose a cricket match was arranged between gentlemen of the north and south of the county, to be played on the cricket ground in the park. Different games and races, with prizes, were appointed for the evening, and two bands were engaged—viz., a Militia band in the grounds of the Abbey in the forenoon, and the band of the Coldstream Guards, under the conductorship of Mr. F. Godfrey, in the Exhibition grounds in the afternoon.

Lastly, Perhaps one of the chief elements of success was the kind permission of the Duke of Bedford, that the cards which gave admission to visitors to the Exhibition ground should, on that day be an *open sesame* to the splendid Park, the rides, and diversified scenery of the picturesque Evergreens, and the charming pleasure grounds, the beautiful flower-beds, the lovely conservatories, and the classic sculpture-gallery close to the Abbey.

Through the kindness of Mr. McKay I had a peep of all this, so interesting, in the morning, and greatly delighted I was; but this delight of the morning seemed to wane and to lessen amid the very same scenes in the afternoon, until it began to rest upon the memory, like an indistinct vision of

the lovely beauty which must have existed in Eden when there were no Adam and no Eve to appreciate that beauty.

Well might poets sing of "the flowers, the beautiful flowers," flowers, the stars of earth, even as the stars above us are flowers of the sky; but flowers are never so lovely as when associated with the sweet flower-stars of humanity, whose mission it has been to shine rays of comfort and of joy into many a heart and many a home. My memories of Woburn are, and must be, varied; but not the least pleasant will be associated with the buoyant life and animation of that beautiful afternoon, when the groups of flowers seemed all the more beautiful when blended and contrasted with groups of admiring ladies and gentlemen; when shrubs and evergreens seemed of a richer hue, as they sent back the rich colours of the varied dresses of the ladies; when the closely-shaven turf seemed instinct with life, as it rebounded to the elastic step of joyous youth; when the calm, unruffled lake became a polished mirror reflecting the happy groups scattered along its banks. Ah! there is a happiness in having the power and the will to help to make others happy.

With such visions imprinted on my eyes, and the grand music of the Guards ringing in my ears, I left the grounds of the Exhibition, as trains, like "time and tide," will wait for no one. I have since learned that besides those who were content with the fine park, &c., 2600 went through the gates of the grounds and conservatories, and upwards of 4000 attended the Show, and no damage or anything done that could form a cause of grievance or complaint. In walking round I heard several gentlemen comparing such good behaviour with the sad contrasts that were exhibited in London on the previous days. Among crowds there will always be a few of the fast; but as a rule the working classes are proud to be trusted, and, their honour appealed to, will not abuse such confidence. In the plant-houses and grounds a few men were stationed, as a matter of prudence, but there was no seen or felt superintendence. To the visitors on that day the enjoyment of these beautiful gardens was entirely unrestricted, and the privilege was received as a boon, and acknowledged as such by happy faces and quiet orderly demeanour.

Of the particulars of this Show I will not speak, for I scarcely took a single note, and could not get near enough to read the names and the addresses of the successful competitors, and it would be invidious to mention only a few. I must be content with stating that there were between 800 and 900 entries, and some of these, as in the case of collections and baskets, contained a number of separate articles; that the hardy fruit and vegetables were on the whole good, and, as I understand, an advance on those of last year; but, on the whole, the Woburn exhibitors will have to make some progress in vegetables before they rival those that used to be shown at Northampton, Towcester, and Daventry. In one box were some very fine Grapes, and there were good Grapes and Melons in other classes. Our cottage friends must excuse me for saying that their nosegays and flowers would be all the better if more taste and care were exercised in the arrangement. In other classes there were some nice arrangements of cut flowers, in which most of the best of Beaton's Geraniums were shown, also the same varieties grown in pots, and of them all I should be inclined to select Donald Beaton as the best in its class. There were also some pretty designs worked out with flowers, and there was a large design in fruit, 8 or more feet in length, by about 4 feet in breadth, representing the arms and motto of the Bedford family, very nicely done with black, red, and white Currants. Considering the time that such a work must have taken in fixing the berries, it is a matter of regret that the fruit picture should be of such a short existence. Among the plants brought by amateurs and gentlemen's gardeners, the most conspicuous were Fuchsias, Caladiums, and Ferns. Of the last two there were good collections. In one place the tables were not over-full, as some nurserymen who had promised their aid were unable to send Roses and other subjects, owing to the hot dry weather. Mr. Woods, of the Nurseries, Hookliffe, had a very nice general collection of plants in a young state, and they seemed to attract much attention. Among these were several plants of a seedling Petunia, which, if it keep true, will be valuable for pot culture and flower garden decoration. On seeing it at a distance, I took it for a nice striped Phlox. The flowers are striped with about equal bands of crimson and white. The individual flower when expanded is larger than a shilling, and less than a florin, and the leaves are quite as small as the old Petunia phoenicea. Its compact growth, and the small size of the pretty flowers and foliage, if they

continue so, will be great recommendations for out-door culture.

Instead of dwelling on such generalities, it may be more important to notice a few matters worthy to be considered, adopted, or improved upon by other cottage garden societies.

1. Even at the gates of the pleasure grounds there were tables where necessary refreshments could be obtained, and in the Exhibition grounds were spacious tents, well filled in the afternoon by those who loved the "cheering cup;" but no intoxicating liquors were permitted. I understood that all the Committee of Management had to do with the purveyor was that the supplies should be good, and charged for at a uniform, merely remunerating, price.

2. The classes of competitors were clearly defined, and any differences in this respect were settled by the decision of the Committee. Thus, Class A was reserved entirely for common labourers, whose articles were marked with yellow papers; Class B was confined to mechanics, jobbing gardeners, and men employed in noblemen's and gentlemen's gardens, who were furnished with blue papers; and Class C was confined entirely to amateurs and gentlemen's gardeners, and these were furnished with white papers. These papers, a specimen of which, taken from a cheque-book, is annexed, the counterfoil remaining in the hands of the Secretary, contain the No. of the exhibitor, the class in which he exhibits, the No. which represents the article exhibited, and the signature of the exhibitor, to the effect that the article was grown by himself, according to Rule 2, which also states that an exhibitor can only take one prize in a class. One of these papers so signed is placed on every article exhibited. I will refer to this again presently.

EXHIBITOR'S NUMBER. (1)	EXHIBITOR'S (1) NUMBER.	1886.—CLASS A.
Woburn, 1886.	WOBURN COTTAGE GARDEN SOCIETY.	
No.	EXHIBITOR'S CERTIFICATE.	
Kind,	No. 16.	
Name,	I hereby certify that the exhibited by me are my own property, and were grown by me in my own garden, according to Rule 2.	
Residence,	Signed, JOE SMITH.	

3. The prizes offered were numerous—an excellent plan for securing a great number of competitors. I have found great difficulty at times in judging, when out of some twenty articles, and with little difference between them in point of merit, only two prizes were offered; and if the Judges could scarcely satisfy themselves, we may be sure that many exhibitors would be disheartened, especially when no extra prizes were given. "Extras" were given pretty freely at Woburn, but the number of prizes rendered them less necessary, except in particular cases. Thus we find that in Class A, for Scarlet Runners, dishes of fifty, eight prizes were offered, ranging from 5s. to 1s., for Broad Beans there were eight, for Cabbages the same, for Long Red Carrots six prizes, and for Short Red Carrots six, a good distinction; for Potato Onions there were five prizes, autumn-sown three, and spring-sown eight prizes, ranging from 6s. to 2s., and the same principle was maintained throughout with Peas, Potatoes, and everything else. For a basket of vegetables of not less than six sorts, ten prizes were offered, ranging from 15s. to 2s. In the other Classes, B and C, the same principle was maintained, but fewer prizes were offered.

4. Prizes are promptly paid at six o'clock in the evening of exhibition, according to the sixth rule. This is a matter of great importance, especially to working men who come from a distance. It saves them time and labour, and is well worthy the attention of many societies who aim at similar objects.

5. Amid so many hundred entries this prompt payment, could not be effected but for systematic arrangements, and the admirable mode by which all the results can be easily seen in the books kept by Mr. Gilby, of Woburn. Thus, the attested paper above referred to must be obtained from Mr. Gilby at least two days before the exhibition, and all articles must be on the ground by nine o'clock on the morning of exhibition. These papers, fixed to the articles, enable the Committee to arrange all according to class, the colour showing at once where they should go, and thus in common circumstances the subjects would be fit for judging. To meet prejudices, however, each paper is put in an envelope, gummed up, and merely marked outside with the letter of the class, &c., and there is no

occasion to open any except those to which prizes are awarded. Meanwhile, I presume, Mr. Gilby has his book made up from the counterfoil, and finishes it as the list of prizes is given in, when all appears at a glance. I wish I had the room to show all the columns, but the following will give a clear idea of the plan:—

Class & Exhibitor's number.	Name.	Parish.	Prizes.						Amount of prizes taken.	Total.	By whom received.
			1	2	3	4	5	6			
1	J. Smith	Woburn	3	2	2	2	2	14	2s. 6d., 4s., 6s., 6s. 4s., 2s. 6d.	17s. 6d. 6s. 6d.	Self.
2	A. Clarke	Aspley.									Wife.

In this way the double page of great width is divided into columns, the first showing the class and the exhibitor's number; the second, the name of the exhibitor; the third, the parish in which he lives; then follow fifty-three columns, numbered accordingly, and each number appropriated to a distinct class of vegetables, fruit, and flowers—1, for Beans; 2, for Beet, &c., as shown as a sample in the first six columns. By running the eye along the line opposite each exhibitor's name, it is at once seen what entries he has made, and under what number he shows. Thus, if I had Mr. Gilby's book, I should see that Job Smith enters for three kinds of Beans, two of Carrots, two of Potatoes, one basket of vegetables, one of Apples, four of Raspberries, two of Heartsease, and one of Geraniums, making sixteen entries in all; but as sometimes the exhibitor changes his mind, the next column tells how many articles he actually exhibits—viz., fourteen. Then the next column shows the amount of the prizes awarded, the next the total amount, and the last the person to whom the money has been paid. From the six columns of the fifty-three, it will be seen that Alfred Clarke has two entries for Cabbage, and from the full list it would be apparent he had two entries for Currants, which come under column 24. My apology for saying so much on this matter is, that I have no recollection of meeting with a plan more simple and effective.

Lastly, A prominent feature of the Society has been the awarding of prizes for the best-kept and best-cropped allotments. Two things here are well worthy of imitation. The first is, so far as I understood, that the competition as to allotments is at present confined to two distinct districts; and as these districts are differently situated as respects soil, situation, convenience in obtaining manure, &c., they do not compete with each other, but each district of allotments has its own competition, and thus two series of prizes are awarded instead of one. The second is, that the prizes are not awarded by one visit of the adjudicators, there must be at least three visits to the allotments, and at somewhat long intervals. One gentleman, greatly interested in this matter, told me that the Judges would have made great mistakes if they had given the prizes as the result of one or two visits. The great improvement effected was chiefly owing to the conviction gaining ground that the poet of honour could only be obtained by continuous exertion, and not by a mere spurt now and then. I have often noticed that in spring, when all is fresh and gay, the most lethargic will be influenced by the season, will freshen their gardens, trim their plants, and make the walk to the cottage door and all about it neat and trim; but the same garden in the autumn and the beginning of winter will look often the handiwork of the sluggard, with decaying Pea-haulm and rotten Cabbage leaves polluting the air, and the paths next to impassable with weeds. Continuous neatness and economizing of materials are therefore desirable.

Well might poets sing of the—

"Cottage homes of England,
How beautiful they stand."

And well might the painter delight in transferring to his canvas their pointed gables, their thatched, and Moss, or House-leek-covered roofs, partly concealed by Eglantine and Honey-suckle, so that you might well imagine them to be the abodes of innocence, and happiness, and peace; but how often would a nearer view tell you that there was little of neatness and industry without, and still less of comfort within, partly owing to the want of means, and more generally owing to the want of the desire to make the most of these means. All success, then, to every effort, be it directed even by a cottage garden society, that aims at promoting industry and neatness outside the cottage,

as that will be surely followed by an increase of cleanliness, of thrift, of comfort, and happiness inside. The state of the garden, the flower-plot, or even a single plant in a pot in a window, forms no bad index to the mere passer-by of the general character of the occupiers. A hint to the wise is sufficient. We are none the worse for knowing that we are constantly, though insensibly, furnishing the materials for others to take notes of our conduct and our character.—B. FISH.

THE REV. CHARLES MARSDEN'S GARDEN AT GARGRAVE.

GARGRAVE is very near Skipton, and about an hour's run by rail from Bradford on the Midland line to Carlisle or Lancaster. Those who delight in magnificent hills and valleys, and glorious mountain scenery, should take a run from Leeds by way of Skipton and Ingleton until tired of it, and a call at Gargrave will amply repay the lover of a good garden, and a look in at the most beautiful stained-glass windows of Gargrave church will be a treat.

Mr. Marsden is an occasional contributor to the Journal, but under a pseudonym, and his opinions may be relied on at all times, and I wish he would write a great deal more, because he is the sort of man to guide amateurs; he is backed up by a gardener who, to use one of our Yorkshire expressions, has his head screwed on right, and I always pick up scraps of information when I visit Mr. Marsden's garden. I went there a few days since to see the Strawberries, and I am confident finer plants and fruit could not be found anywhere. The soil is not what may be honestly called good, for it is too light for Strawberries, and yet they are grown well here. Mr. Marsden treats the Strawberry as an annual and biennial, rarely allowing the plants to stand more than one or two years, and he has this season very fine crops from British Queen and La Constante, planted last August; not small plants with three or four fruit to each, but full-sized plants with an abundance of fine fruit. Before adventing to the sorts, I just wish to say a word or two about the treatment they receive. His gardener told me that in preparing the ground for planting they keep the manure near the surface, and after planting they never disturb the roots, but apply manure to the surface.

What a treat it is to see La Constante growing here! in fact, I never saw it in such luxuriant health, and some rows planted in August last were wonderfully fine. Another batch of two-year-old plants were also in fine trim, and full of fruit; and a small bed which had been allowed to stand for five years had a heavy crop. Where La Constante can be grown, and it must have very liberal growth, it is a first-class Strawberry in every respect, and, as the gardener observed, so short-stemmed that the fruit is covered by the foliage, and the birds do not get at them so much as other kinds. Another great advantage of La Constante is that it keeps up a succession, for it can be gathered from as early as Prince of Wales, and as late as any other kind.

British Queen is grown to perfection here, and I saw fruit such as one expects to find about Isleworth, or at Solomon's in Covent Garden, and a good old sort it is. It will be a long time before it be driven out of the field.

Crimson Queen is much grown and valued here, for it is a very free cropper, bearing fine, handsome fruit, and firm for travelling, just the Strawberry for market; but it should be quite ripe for flavour.

Frogmore Late Pine is not so much prized here, as it is rather tender; Cox's Hybrid is a capital cropper and a good Strawberry; Ingram's Prince of Wales is a heavy cropper and early. Other sorts are grown, but to these I shall refer another time.

I shall look in again soon to take stock of the good collection of Potatoes growing here. So far as I saw, Mona's Pride was turning out well; Birmingham Prizetaker was a large handsome Kidney; Lord Raglan, a good second early Kidney, with a rough skin, but first-rate in quality, the gardener told me; Gloucester Kidney, a second early, and Milky White, both good; and Rivara's Royal Ashleaf is one of the best earliest second earlies, certainly earlier than Myatt's. Amongst vegetables I saw Beck's Green Gem Bean, the only Broad Bean now grown by many, and a delicious little variety it is, Sandringham Celery looking well, and Ivory's Nonsuch, a fine Cabbage Lettuce.

A good collection of Pears is to be found here, and I noticed a good crop on small trees against a wall of B urre Hardy, a

fine and handsome kind, and B urre Superfin. Governor Wood Bigarreau Cherry is a very fine sort, and as free as the May Duke.

The flower gardening, although on a small scale here, is very pretty and effective. Two of the plants used were particularly good—viz., *Calceolaria Bijou*, a capital dark kind, and *Scrophularia nodosa variegata*, a bed of which is enough to convince any one that it is a most valuable hardy bedding plant. Against the Vicarage the beautiful *Climatises Jackmanni*, lanuginosa, rubro-violacea, and *Hel ne*, were blooming freely, and what grand climbers they are!—WILLIAM DEAN, Shipley.

GRASSES FOR LAWNS.

THE rich and continuous verdure of our lawns is the admiration of foreigners who visit this country, and is chiefly attributable to our climate. The beauty of a lawn consists in the evenness of its surface and its deep green colour at all seasons; and it is the object of this communication to show how these results may be secured both in gardens and pleasure grounds, where the grass is regularly mown, and in parks grazed by deer, sheep, or cattle. Though Grasses are a numerous family, very few indeed are of any utility to the horticulturist, and of such I shall notice only the best and those desirable for particular purposes.



FESTUCA DURIUSCULA (Hard Fescue Grass).—This valuable perennial Grass is thus described in a former volume:—"Roots fibrous, and sometimes throwing out short lateral shoots. Stem about 2 feet high, erect, leafy, round, streaked, smooth. Lower leaves long, very slender, stiff, pointed, bristle-shaped from their sides being pressed together, and streaked; upper leaves broader and flat; edges and keels of all roughish, and all milky green. Leaf-sheaths close, smooth. Stipules very short, cloven. Flower-head an oblong unilateral panicle, much spreading when in flower, its branches being at an acute angle, pointing upwards from the stem, rough. Spikelets more or less red, at first cylindrical, but becoming flattened as the glumes expand. Calyx sharp-pointed. Florets from four to seven in number, keeled, flattened, generally smooth, the uppermost often imperfect; the outer valve tipped with a straight rough awn

shorter than the valve; inner valve roughish at the marginal ribs, slightly cloven at the point. Stigmas cylindrical. Anthers purple, cleft at the ends."

This Fescue Grass will thrive almost anywhere, except on bleak hills, and is not particular as to soil, though it succeeds best on sandy rich loam. It grows remarkably well in the shade, retaining its verdure throughout the most severe winter, and few Grasses, if any, endure drought so well. For sheltered hills and valleys, except where very wet, it is well adapted, and it is valuable for lawns which are shaded, especially those on a dry subsoil which are so liable to become brown in summer; for after its flowering season (June), it grows quickly notwithstanding the heat and drought which then usually prevail.—G. ARNAT.

(To be continued.)

ROYAL HORTICULTURAL SOCIETY.

WEEKLY SHOW, August 4th.—In Class I. Messrs. Cutbush & Son, of Highgate, took the first prize for six handsome plants of *Hydrangea*, and in the class for six miscellaneous plants they were equally successful. In the class for the best collection of fruit there were two meritorious exhibitions. That of Messrs. Lane & Son, of Berkhamstead, which received the first prize, consisted of well-grown bunches of the following Grapes:—*Trebbiano*, *Black Prince*, *Foster's Seedling*, *Alicante*, *Chavouah*, *White Frontignan*, *Frankenthal*, *Buckland Sweetwater*, and some excellent dishes of *Cherries*. Mr. R. Marcham, gardener to E. Oates, Esq., Bydorp House, Hanwell, was second. In the Miscellaneous Class Messrs. Cutbush received an extra prize for six handsome *Fuchsias*. From the garden of the Society at Chirwick there were collections of *Hollyhocks*, *Stocks*, and *Salpiglossis*, the latter consisting of many beautiful varieties. There was also a large number of *Zonale Pelargoniums* in pots, exhibiting the finest varieties of these beautiful flowers in state of great perfection. There were also fruit of the *Cucumber Huntingdonia*, a handsome variety.

"THE LADY" STRAWBERRY.

We have received from Mr. Richard Underhill, of Birmingham, fruit of the seedling Strawberry he has recently introduced under the name of "The Lady." It is what may be called a good-sized Strawberry, not so large as the very large specimens sometimes seen, but as large as we find in an ordinary crop of fruit. The skin is pale, with a salmon or rosy tint, much like the colour of a *Hautbois*, none of the fruit being entirely red. The flesh is solid, of a rich cream colour, with a very rich flavour and powerful aroma.

NOTES ON THE WAY TO THE HOLY SEPULCHRE.—No. 4.

THE PROMISED LAND.

"And the Lord said unto Abram, after that Lot was separated from him, Lift up now thine eyes, and look from the place where thou art [Bethel], northward, and southward, and eastward, and westward: for all the land which thou seest, to thee will I give it, and to thy seed for ever."

This was Abraham's title to the Promised Land, the land flowing with milk and honey; and in these words was contained the second or earthly part of that blessing which the Creator of the whole world bestowed on him who, amidst the idolatry of the surrounding nations, acknowledged and worshipped the one true God.

Within the strict limits of the Promised Land is the ancient port of Joppa, or Jaffa, as it is now called, to which, we read in *Chronicles*, that Huram King of Tyre sent "Cedar trees, Fir trees, and Algum trees out of Lebanon in floats by sea" for the building of the first temple at Jerusalem; and towards the building of the second temple, we find in *Ezra* that "they gave meat, and drink, and oil unto them of Zidon, and to them of Tyre, to bring Cedar trees from Lebanon to the sea of Joppa." It was from this port that Jonah took ship when he fled from the presence of the Lord; and it is by this reef-guarded entrance that I am about to enter the Holy Land, and linger in spirit for a time amidst its sacred scenes, examining by the way its natural features and productions.

Directly the traveller lands he at once feels that he is in the East. Swarthy half-naked Arabs surround him. There is an immediate call for *backshish*; and if his visit be in the spring he will probably see on all sides crowds of pilgrims on their way either to or fro the holy sepulchre.

The town of Joppa itself is built on a hill; the narrow streets composing it are steep, and in some cases ascended by steps, with arches supporting other houses thrown across. There are still houses "by the seaside;" and one of these is shown as that once inhabited by Simon the tanner, who received and lodged St. Peter, and from whose friendly doors the Apostle went forth—journeying by the valley of Sharon—to Caesarea, to be the means of bringing the house of Cornelius, the Gentile centurion, into the Church of Christ. Joppa is also further endeared to us as being the house where Tabitha dwelt—that "Dorcas" whose good works and almsdeeds have been a pattern for all Christian women.

The plain of Sharon—so often mentioned in the Bible as a place on which Nature has lavished the "excellency" of her choicest gifts, and as "a fold of flocks"—begins in the vicinity of Caesarea, and extends, for about thirty miles in length and ten in breadth, as far south as Joppa and Lydda. The tract immediately along the shore is low, and in some parts marshy; the interior part, along the base of the hills, is everywhere fertile and cultivated. The wood scattered in the plain is deciduous Oak, which in the north rises into trees, but in the south these are only shrubs. Besides the Oak there is the *Arbutus*, with here and there plantations of Olives and Carob trees. White Clover springs spontaneously from the soil. Flocks of goats are dotted about, browsing in the valleys or on the hillsides, giving a civilised homely look to the scene. The wild flowers that have been noticed are *Asphodels* and *Lilies*, scarlet *Anemones*, *Lavender*, a pink *Phlox*, blue *Iris*, a small red *Tulip*, and white *Asters*. The *Cistus roseus* (L.), grows so abundantly that it has been supposed to represent the "Rose of Sharon" spoken of in the Song of Solomon; but amongst the Syrian plants sent to me there is a lovely species of a small white Rose, which seems to me a fitter emblem.

Kitto, in his "Physical History of Palestine," mentions, on the testimony of others, that the Fig tree and Sycamore flourish at Jaffa; that in the gardens there are the Peach tree and the Terebinth, as well as the Orange; and that a small quantity of *Cannabis vulgaris* is cultivated, which the Moslems reduce to powder, and make with it a narcotic confection, which has the same effect upon them as opium. The leaf of this plant is also smoked—a curious way of evading that "drinking of the shameful," by which title they class (according to Palgrove), smoking tobacco as the second deadly sin.

The other Jaffa plants mentioned in Kitto are *Hyoscyamus aureus*, *Parietaria officinalis*, *Lycium spinosum*, "of which the Latin monks believe the thorny crown of Christ to have been made," a species of Spurge in the hedges, *Papaver rhæas*, and *Malva vulgaris*. Kitto also states that the Heath is cut at Jaffa and burnt, and the ashes used in the manufacture of soap. The Water Melons of Jaffa have been greatly celebrated, and the Oranges are said to be the best on the Mediterranean.

Can we picture to ourselves this city on a hill, at whose feet on one side the blue waves of the Great Sea rage and swell, or lie down in passive beauty? From the "house tops" the eye can glance away from the water over the fertile valley which spreads before you. For two or three miles there is, as it were, a belt of Date Palms (which in this locality rarely ripen their fruit to perfection), and Orange groves scenting the air with the rich perfume of their blossoms. People of fair complexion—the women wearing high pattens on their naked feet—are wandering here and there; and, added to the sweet breath of flowers, there is the music of many birds.

The route from Jaffa to Ramleh, a village situated not far from Lydda on the way to Jerusalem, is for the most part a lovely one. Pleasant sandy lanes, with hedges of Briar, from which depend wreaths of Bindweed, lead through groves of Oranges, Lemons, Pomegranates, Almonds, and Vines, with many a wild flower intermingled, amongst which the most noticeable is a beautiful species of *Salvia*. The road then emerges into open undulating plains, which extend for about fifteen miles to the foot of the "hill country." These plains are well and cleanly cultivated with grain, amongst which, near Ramleh, may be found the *Amaryllis orientalis*, "with its round terminal head thick set with florets." In the same neighbourhood, I read, the *Anemone alpina* grows abundantly, and the *Oxycodon hederaefolium* "attains a size and brightness of colour beyond its wont in Europe." While gathering the flowers there may be heard the full joyous song of the skylark as she wings her quivering flight towards heaven; and the cry of the plover will denote that one of the many pools of water abounding in the plain is at hand. There are also fields of Cucumbers and Vegetable Marrows. A few disreput-

able-looking villages are scattered in the distance, but the route avoiding these continues by the plain till it reaches Ramleh (Arimathea), where travellers are received and hospitably entertained at the Franciscan convent; and there, from its terrace in the still evening's light, they may look out on a fair eastern view. Beneath them lie gardens surrounded with hedges of Prickly Pear; tall Palm trees rise in the distance, while the heavens above are alight with stars. From amongst these perhaps they will single out one more brilliant than the rest, that their dreams may be of those "wise men," who, like themselves, had left their homes that they might worship Him, whose birth a star proclaimed, at the manger of Bethlehem.

After a two-hours ride from Ramleh the route enters a defile of the mountains, which you are told is that "highway" by which the kine bore the ark when turned loose with it by the Philistines of Ekron.

At the foot of the bleak-looking hills the traveller halts and rests for a time under the friendly shadow of some wild Fig trees, and by the wayside he may gather a lovely species of *Geranium* and the *Peganum harmala*; there, too, he may find *Erythraea centaurium*, the pretty pink blossoms of which, although a little smaller than our English Centaury, will carry him back to the hedgerows of England. Besides these there is the *Nepeta curviflora*, which grows in the neighbourhood of Jerusalem.

After the rest there comes a dreary ride of several hours over bleak hills, clothed with stunted shrubs and trees, having the look of rough coppice wood on a stony Westmoreland hill, with here and there pasturage for a few sheep and goats, the latter guarded by children in scant eastern costume, consisting of a sack tied at the waist, with two holes for the legs, and a shirt of white, blue, or snuff colour, with a loose strip of coloured calico which they throw over the head or round the body at pleasure, the girls drawing it over the face at the approach of strangers. These children offer jars of milk to the passing pilgrims, a courtesy for which they expect, and demand a little loudly, too, a small return in coppers.

As you gain the last hill top you come suddenly on the view of Jerusalem. It is a difficult task to approach the "City of God" with a mind at unity with itself, so conflicting are the sentiments that overpower you. The eighteen hundred years which have passed away since the "veil of the temple was rent in the midst," is as a watch in the night; you seem to be standing midway between the old and the new dispensations—between the living and the dead. Amongst the pilgrims you meet there will be Jew as well as Christian, both drawn by love to the "Holy City," both watching and waiting for a fuller manifestation of the same Messiah; but one has the firm step and glistening eye of faith, and the other the weary watchfulness of hope deferred, never to be realised on earth till the end. And mingled with all these thoughts there is the "to-day"—the knowledge of what is; the ruin of many a goodly building partially built over; villas and gardens springing up as they spring up around a modern city; vegetation struggling to assert its repairing power; young plantations of Olives, Almonds, Peach, and Apricot trees. The traveller longs to note it all, but he feels bewildered and oppressed, and all the while the beast beneath him carries him onward, even to the "gates of Jerusalem," and he is awakened from his overpowering thoughts of the ancient glory and present degradation of the city of David to find himself isolated amidst a crowd of Jew and Moslem, to both of whom he is but "a Christian dog." Before the gate there is a band of lepers, shunned and avoided alike by all; yet not quite by all, for gliding here and there in gentle ministration to the loathsome mass of misery he sees a calm, fair woman, wearing on her bosom the badge of the Crucified—the shadow of a glory greater than that surrounding Solomon's Temple seems to be cast before her steps—there is a voice in the air proclaiming to the leprous in mind and body, "I will, be thou clean;" but he passes on, and then it is—Jerusalem.—FLIX-POEMINA.

WORK FOR THE WEEK.

KITCHEN GARDEN.

VACANT ground, or that which can be cleared of early crops, may be still planted with winter Greens, first giving it a good dressing of manure and a good deep digging. Stir the surface of the soil among growing crops. Broccoli, move the earth amongst them and winter stuff, and, if earth must be laid

against the stems, let it be done right and left with a fork, keeping the work before you to avoid treading on the surface. If there is any spare ground left, plant out the latest sown Miller's Dwarf Russian. It is advisable that Broccolis intended to stand through the winter should never be planted too thickly, as it is apt to make them much more tender than when there is a good circulation of air to render them robust and hardy. *Cabbages*, there should be no delay in making the main sowings for spring supply. Bailey's Improved is an excellent variety, to which may be added the Nonpareil, Vaneck, East Ham, and London Market. The first sowings may be pricked out into nursery-beds. It is always better to do so in preference to leaving them in the seed-bed, as it makes them stocky and well-rooted, and consequently better able to bear the winter. *Celery*, see that the surface soil is well stirred about it, and afford copious applications of liquid manure with a small portion of salt dissolved in it. *Lettuce*, prepare a piece of ground to be sown immediately with the Bath variety, also for winter *Onions* and Winter *Spinach*. *Peas*, the rows that have had crops planted between them must now be entirely removed and the ground well forked up. Liberal waterings twice or thrice a-week in dry weather will be required by Peas, Cauliflowers, Spinach, Artichokes, Lettuce, &c., rendering them not only better in quality, but making them last longer in perfection.

FRUIT GARDEN.

Follow up the system of stopping and shortening, as recommended last week. The shoots of Pears may be headed back to three or four eyes. In regulating shoots, remember that it is important that each should enjoy a due exposure to the influence of the sun. Stop and thin Raspberry suckers, and make new plantations of Strawberries.

FLOWER GARDEN.

Let nothing be allowed to grow out of place, but attend to the wants of growing plants by giving them their proper supports and training at this season. The next matter requiring consideration will be the propagation of stock for another year. In commencing with Pelargoniums employed for bedding-purposes, raised beds of sandy soil will serve to strike the Scarlet and their allies, while the Fancies and other kinds with a delicate habit, will be better in pots, or, where large quantities are required, in a frame under glass. Under any circumstances they will require protection from heavy rains. There is a class, of which *Sidonia* is one, which strikes with difficulty by cuttings of the shoots, and is best propagated by root-cuttings. Prepare cuttings of the thickest roots about 1½ inch in length; these should be inserted in shallow pans and plunged in a frame. The oldest plants should be selected for the purpose. Herbaceous plants and hardy bulbs, now in full beauty, should be kept in order by tying up loose growths and keeping the ground free from weeds. Novelties should have their colours and time of flowering marked down as a guide for future arrangements. Finish the propagation of any choice plants not yet in, and continue the layering of Cloves, Carnations, mule Pinks, &c., of which there is rarely an overstock. The cuttings of Laurels and other loose-growing shrubs should be proceeded with as time permits. Autumn-flowering Roses will be much strengthened and flower better during the next two months, if partially pruned and well soaked with manure water.

GREENHOUSE AND CONSERVATORY.

Camellias in general will now have formed their flower-buds; when such is the case it is advisable to water them freely with liquid manure. We prefer this period, too, for shifting them, doing so the moment that we can be sure that the blossom-bud is fixed. A very frequent stopping or pinching of the growing shoots of stocks for next year's purposes will now be necessary. Great advantage is derived from giving plants some kind of rest after blooming, to restore their exhausted energies, and to enable them to make a vigorous start when the new growth commences. At this season greenhouse plants done blooming should have a comparatively cool temperature, and no structure presents so many advantages for the purpose as a house with a north aspect. We may state further, that for growing delicate-leaved plants through the summer, houses having a north or north-east aspect are preferable, while for the purposes of retarding plants or preserving them in bloom they are indispensable. Such plants, therefore, as *Epacris*, *Leche-naultias*, *Pimeleas*, *Aphelegis*, and others of similar habit, which have been kept for late bloom and are now over, should be placed in a house of the above description, or in deep frames with the sashes turned towards the north, having first picked

off the old remaining blooms; here, by gentle syringing once or twice daily, the plants may remain till a new growth commences, when any pruning they may require may be performed, and they may afterwards be placed in more favourable positions for ripening their wood. The pot Roses should have all exhausted blossoms cut constantly away, and those for winter blooming should be examined as to whether they require shifting. In such cases some of the old balls should be loosened, and the head slightly reduced. The Teas are admirably adapted for pot culture; and for these we prefer mixing a little heath soil with the compost, which should be exceedingly rich, and consist of nearly one-half of the chopped turf of a rich loam. A good sprinkling of pounded charcoal and sparkling sand should be used. Of Heaths, plants of depressa and other shy-blooming kinds which have made their growth should be placed in the full sun to set the bloom, taking the precaution, however, to protect the roots by double-potting the plants. Young stock in pits or frames must be exposed to the dews every evening, and in dull weather they may be exposed throughout the day also. Repot, stake, and stop *Chrysanthemums* and other winter-blooming plants, and look to the *Pelargoniums* cut down last week, and also the *Calceolarias*; cut down the late-blooming ones if the wood is ripe. Pinks and Violets will require watering in dry weather, and a dusting of sulphur will do the latter no harm. Attention must now be paid to late-growing plants in the borders of the conservatory, for while in active growth they require a good deal of water, and insects are more troublesome than in the case of plants at rest. Give *Luculias* especially plenty of water at the root, and an occasional supply of clear weak manure water to old plants which may not be growing freely, until they have made sufficient wood to ensure a good display of flower. Manure water must not be given to young specimens in vigorous health, as in that case it would only induce too gross a growth—a condition in which they seldom flower profusely. In order to secure fine heads of bloom from this plant it should be allowed a few weeks of comparative rest after the middle of the month, keeping the roots rather dry, and exposing the plants as freely to air as can be done without injury to the foliage or the health of their neighbours. *Brugmansia sanguinea* is also a useful plant for winter and early-spring flowering, when managed so as to have it pruned, rested, and started into growth about this time. Young and vigorous plants, however, frequently require to be watered rather sparingly at this period to prevent their making a second growth. *Cinerarias* for early flowering should now be growing freely, and should be shifted when necessary, for if they are to form large specimens for flowering in winter they must not be permitted to sustain any check. Remove suckers whenever they can be obtained, and pot them for spring-flowering.

STOVE.

Watch closely for insects in this house, and follow former directions as to moisture and air. Those *Ixoras* which have done blooming must be cut boldly in, and started gently to make a new growth. Attend closely to the winter-blooming plants, taking care to have such growths matured as require ripening to produce bloom.—W. KNANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

On the 28th ult. we had a beautiful rain, repeated again on the 1st of August. These rains have wonderfully changed the appearance of the country, and yet come so gently as to do no injury to the advancing crops in the fields, and but little even in the flower garden, except washing off bushels of *Calceolaria* blooms, giving that, however, to the plants which would encourage them to produce multitudes of fresh blossoms. We were fortunate enough to get most of the hard-baked ground stirred amongst the advancing crops, and to water some, such as Peas and Cauliflowers, a few days before the rains, and then, when the dull days and the rains came, the plants seemed to grow before our eyes.

There has been no little discussion, and many a witty remark has been levelled at us, in consequence of our advancing lately the somewhat astounding principle that it is good to water in a dull day, and when plants are very dry it is better still to water before rain was expected. We have not a doubt as to the wisdom of the preceding; but in any case, something will be gained if the matter is thought and reasoned out. We want the plants out of doors to have the benefit of the

water we are compelled to give to the soil. We have no notion of watering the soil well, if it can be avoided, in a bright sun, with the certainty that the sun will soon exhale that moisture to soften the atmosphere for the general benefit. If so obliged to water, we try to keep the water as much as possible to its destined purpose, just on the same principle that we use dampers for our furnaces, having no such large-hearted benevolence as would induce us to send all the possible heat up the chimney to make the air a shade warmer for some surrounding villages. The Celery watered before the rain is also thanking us by its appearance now. The little Dwarf Incomparable seems much greener in colour than the others, though all seem healthy, luxuriant, and firm in texture. We will merely earth-up what we want early.

Cabbages.—Sowed on the 29th ult. what we intend for the main early crop, and will sow again about the 8th or 10th. We were unfortunate in our first lot this season, and had more run heads than in all the years of our practice put together. Fortunately those in the next lot were pretty early, though even they had a few runaways, whilst for years we have had the Matchless and others level all over, and not a bolted plant. What is worst is, that plants of the latter description are of little or no use afterwards. If you cut them over 6 inches from the ground you will obtain nothing but a fresh crop of bolters. If you cut over close to the ground there is just a chance that you may have several young Cabbages from the base, and only a chance, for most of the young sprouts will come showing the flower-stalk at their points. In fact, when the flower-producing tendency is formed in a Cabbage plant, hardly any management will alter it so as to produce young Cabbages instead of shoots with flowers. The great advantage of an early unbolted crop of Cabbages is, that when the first Cabbage is cut the same stump will produce several nice crops of young Cabbages afterwards before the end of autumn, and a rare picking of young sprouts throughout the winter. Planted out lots of Coleworts to succeed those now beginning to heart, giving them about 1 foot square. Such young Coleworts, just when they begin to heart a little, and well boiled, are a dish for a prince. Took the opportunity of further thinning the later Onions, Carrots, and Turnips, and planted out more Endive and Lettuces. Bright airy weather, we hope, will keep off all traces of the Potato disease. Regulated and thinned Cucumber plants in frames and ridges, and sowed for late crops.

FRUIT GARDEN.

Continued much of the work of shortening and pruning referred to last week, and commenced *potting Strawberries for forcing* next season. If we have nice plants in small pots or otherwise, we generally transfer them now singly to six-inch pots, what are called 32's. As there are some inquiries about the treatment adopted, we will state the heads of it:—First, A hard bottom full in the sun for the pots to stand on, with just a sprinkling of sand to permit of the pots standing level, and keeping a little moisture about the base of the pots. Secondly, The pots are thoroughly scrubbed inside and outside before using them. (Washing pots and cleaning sheds made the bulk of the work on the wettest day of Wednesday.) Thirdly, The pots are pretty well drained, a little moss laid over the crocks, and a little soot sprinkled on the moss; the soot and the hard bottom, independently of the nourishment from the former, being chiefly intended for keeping worms at a distance, which result is also assisted by well watering the ground at times with lime water. However we may value the worms in some cases, we have no desire to let them into our Strawberry pots, as there they are sure to do injury by stopping drainage and doing away with the firmness of the soil against the roots. Fourthly, The soil we use is a rather stiff fresh loam with about a sixth part of fine leaf mould and spent Mushroom-bed dung. Such soil, and pressed, is placed deep enough over the drainage for the young plant to stand with the base of its bud about one-quarter of an inch below the rim of the pot, as it will be sure to sink a very little afterwards; and then, the roots being properly looked after, the soil is packed in and firmly beaten with a stick, so that at the top the soil will be smooth and half an inch below the rim. Fifth, These pot plants are watered with clear water until the roots begin to reach the sides of the pot, are shaded in bright sun if the leaves offer to flag, for we never like to see a single leaf distressed, have all the sun possible as soon as they can bear it, frequent manure waterings as they become strong, and less water and all the light possible towards the end of autumn. Of course, all runners should be removed as they appear. Cuthill's Black Prince for early gathering we generally grow in 4½ or 5-inch

pots, commonly called 48's and 40's, and we grow a good many plants of Keens' Seedling for early work in the same size, as the smallness of the pots and the rapidity with which they are filled with roots enable us all the sooner to have the buds matured and rested before starting them into growth. After March and April we take up and force young plants, which we will now prick out in rich borders, 6 or 7 inches apart; but for all early forcing the plants must have their pots filled with roots, and their buds be well ripened in the previous autumn.

Netting from Birds.—The other day we had another proof that nets if not perfectly secure are no defence for what is beneath them, but rather a temptation to the curiosity of the birds to find out what you have thus protected, and if there is a possible flaw they will find it out and enter. A piece of a border of Gooseberries had a rough frame thrown over it, and then a net or a series of nets over that, well secured at the sides, and everywhere as we thought. Next morning, between five and six, on going to the place we might have fancied ourselves at a large roosting-place for domestic fowls, as more than a score of blackbirds flew and screeched and screamed to get out. Here is where the blackbird loses his wisdom. Had the birds only kept quiet they might have had it all their own way. With several men round the net and one among the bushes inside, more than half the marauders escaped. It became difficult to find them at last, as they crouched so still and quiet by the stems of the bushes. It was considered very singular that not a single thrush or other bird was in company with the blackbirds. The beautiful cock birds with their greater daring managed to escape. The nets were again carefully gone over, every little hole patched, and the sides thoroughly secured, and for two days no more have found their way inside; but in the morning and evening, and several times during the day, numbers run up and down outside the netting, fly against it, act as if they considered themselves very ill-used, and generally go off with such a scream of defiance as seems to say, We will serve you out for keeping us out! A good many solitary thrushes and blackbirds have hung themselves in nets; but this is only the third instance that has come under our own observation, that when blackbirds thieve in company they will have no other interlopers to share the booty with them. Have any of our readers observed a similar phenomenon?

ORNAMENTAL DEPARTMENT.

Out of doors we have chiefly been employed in mowing, sweeping, and rolling grass, and regulating beds that were not fastened when planted. *Cerastium edgings* will also need fresh trimming, as the heat and wet have caused them to grow beyond bounds. In sheds and houses much time has been taken up in potting and cleaning, dipping Stanhopeas to give moisture enough to swell their expanding buds, potting Ferns, top-dressing, and surface-stirring the soil of plants in pots. Roses should now be budded without delay, cuttings inserted, and many out-door plants attended to. Proceeded with collecting seed, making cuttings, drying bulbs, staking Hollyhocks, thinning shoots of Dahlias, and general watering; but all these matters, have been definitely alluded to of late.—R. F.

COVENT GARDEN MARKET.—AUGUST 4.

In addition to former quotations, we may mention that the earlier varieties of Apples and Pears are both coming into the market in considerable quantities, and find a ready sale; we have, also, at the auction sales large consignments of the same fruits from France and Spain in tolerably good condition. Strawberries are now nearly over, the only sorts coming in being Myatt's Eleanor and Elton. Hothouse fruit is quite sufficient for the demand; Peaches and Nectarines are in rather better request; and of Apricots there is a short supply.

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Artichokes.....	each	0	2	to 0	4	Leeks.....	bundle	0	8	to 0	0
Asparagus.....	bundle	0	0	8	0	Lettuces.....	per score	1	0	1	0
Beans, Broad.....	bushel	5	0	0	0	Mushrooms.....	pot	8	0	4	0
Kidney.....	½ sieve	2	0	3	0	Must.& Cress, punnet	0	2	0	0	0
Beet, Red.....	doz.	2	0	3	0	Onions.....	doz. bunches	4	0	0	0
Broccoli.....	bundle	1	0	1	6	Parley.....	½ sieve	2	0	0	0
Brus. Sprouts ½ sieve	0	0	0	0	0	Parameps.....	doz.	0	9	1	8
Cabbage.....	doz.	1	0	2	0	Peas.....	per quart	0	9	1	8
Capsicums.....	100	0	0	0	0	Potatoes.....	bushel	2	0	5	0
Carrots.....	bunch	0	4	0	8	Kidney.....	do.	3	0	6	0
Cauliflower.....	doz.	2	0	6	0	Radishes.....	doz. hands	0	8	1	0
Celery.....	bundle	2	0	3	0	Rhubarb.....	bundle	0	4	0	0
Cucumbers.....	each	0	4	1	0	Savoy.....	doz.	0	0	0	0
pickling.....	doz.	0	0	0	0	Sea-kale.....	basket	0	0	0	0
Endive.....	doz.	2	0	0	0	Shallots.....	lb.	0	8	0	0
Fennel.....	bunch	0	3	0	0	Spinach.....	bushel	2	0	5	0
Gazelle.....	lb.	1	0	0	0	Tomatoes.....	per doz.	2	0	4	0
Herbs.....	bunch	0	2	0	0	Turnips.....	bunch	0	4	0	0
Horseradish.....	bundle	2	6	4	0	Vegetable Marrows	do.	0	9	1	0

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	2	0	5	0	Melons..... each	2	5	5	0
Apricots doz.	2	0	4	0	Nectarines doz.	8	0	12	0
Cherries lb.	0	4	1	0	Oranges 100	12	0	30	0
Chestnuts bush.	0	0	0	0	Peaches doz.	10	0	15	0
Currants sieve	5	0	8	0	Pears (dessert) doz.	1	0	3	0
Black doz.	5	0	8	0	Kitchen doz.	0	0	0	0
Figs doz.	8	0	15	0	Pine Apples lb.	3	0	5	0
Filberts lb.	0	0	0	0	Plums ½ sieve	7	0	0	0
Cobs 100 lbs.	0	0	0	0	Quinces ½ sieve	0	0	0	0
Gooseberries quart	0	4	0	0	Raspberries lb.	0	5	0	0
Grapes, Hothouse lb.	2	0	5	0	Strawberries lb.	0	4	1	0
Lemons 100	5	0	10	0	Walnuts bush.	5	0	8	0

TO CORRESPONDENTS.

•• We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

CHAMEROPS FORTUNI (A).—No doubt the Marantas would be benefited by the manure water if it be not applied too strong, but we should be in doubt as to its being beneficial to the Chamerops.

DOUBLE CANTERBURY BELLS (*Campsis*).—It is not unusual to meet with the double variety of Canterbury Bells. If you save the seed you will perpetuate the double form.

ANACHARIS ALAENASTRUM (F).—The only two modes of ridding a pond or lake of this weed is to pasture it with swans, which keep it under, or to dredge it with long-handled rakes. We know an instance where the latter mode was resorted to, and the weed, being thrown into heaps till it decayed, afterwards furnished an excellent manure for vegetable crops.

BARTISH BULES (*Caroline*).—The only work on this subject illustrated with plates, is by Mrs. London, and in, we presume, the expensive one you allude to. It is not possible to get such works as these illustrated at a small cost.

GREENHOUSE (H. S.).—A north-east aspect is certainly not an inviting one for a greenhouse; but if that is the best you can obtain, and you are desirous to erect one, you will succeed in raising flowers and fruits very fairly. We have seen both grown in a house facing directly north.

MELONS CRACKING (M. C. J.).—The only way in which we can account for your Melons going in the way they have done, is by their roots having penetrated beyond the frames and received a superabundance of moisture during the wet weather we have had. You say you have not watered the plants inside the frames; and as the result is attributable to an excess of moisture, there is no other solution of the cause than that we have given.

NEW PEA (M. R. D.).—Your Pea, even when old, is sweet and tender. The story about being found originally in a mummy is an old one, which has been related of other varieties, and may be true or not. One sort was advertised as a Mummy Pea some years ago, and proved to be the Matchless Marrow. Judging from the pods you have sent yours is not that variety. The best way to have it tested would be to send some of the seed to the Royal Horticultural Society's garden at Chiswick, addressed to Mr. Barron, who will have it sown along with the other varieties next season.

SUMMER PRUNING (T. T., Isleworth).—In reference to what was said last week in "Doings of the Last Week," we would reply, that many systems are right, in proportion as they are carried out thoroughly. Your gardener may be perfectly right in clearing away all summer growth; stumping in the shoots as they appear, if the trellis is filled, the trees fruitful and vigorous enough, and not too vigorous to cause the fruit-buds to start prematurely. Such stumping-in tells on root-action, as alluded to last week. In general circumstances we consider it better to let the shoots grow a little, cut a part back, and then merely stop the points of the others. We observe that shoots of Apples and Pears stopped in June are making fine bold buds at the base of the shoot. We would have stopped all sooner if we could have found time, and if time permitted we would do the same with Currants, Gooseberries, &c. When we could do this effectually we have found the base of the shoots of the present year, for 6 inches or so in length, even of Currants, produce freely.

WINTER-PRUNING MORELLO CHERRIES (*Idem*).—This may be done any time from November to April, in fact, they may be pruned when in bloom, as then you can always cut to a wood-bud. In summer, the sooner the shoots are thinned, and the bulk of those intended to be left laid in to the wall, the better. If the shoots are at all strong they should be stopped, which makes them more fruitful. They do well, too, when spurred back; but generally they are allowed to bear on the young wood of last year, as in the case of the Peach. When systematically treated throughout, both Cherries and Peaches may be stopped in summer to cause them to bear on short shoots or clusters of spurs.

PERISTERIA ELATA (*Idem*).—We have no doubt that many cultivators would be glad to exchange *Asaleas*, &c., for your *Peristerias*; but the best way to secure the exchange would be to advertise in our columns.

WOODLICE IN A MUSHROOM-HOUSE (*E. Vinery*).—Having tried Potato traps and pouring hot water, as well as carbolic acid round the edges of the bed, and found none of these remedies effectual, you may find relief by cutting a number of new Potatoes in two, hollowing them out in the middle, and laying them on the bed. The woodlice will remain hidden under the Potatoes, and may be destroyed daily. Toads are this year unusually numerous, and a score or two put into the house would assist you more than anything we know, except Bantam fowls. We had a pit so full of woodlice that nothing could live in it, but we made it the home of a cock and two Bantam hens, and in a few days it was clear. Having put a quantity of boiled Potatoes on the floor, and covered them with a little short hay, the woodlice came to feast on the Potatoes, and the fowls in turn fed on them.

FIG TREES UNFRUITFUL (*Idem*).—The most probable cause of the trees being unfruitful is the roof of the vinery being so occupied by the Vines that the Fig trees on the back wall have not sufficient light to ripen their wood. Fig trees will grow in partial shade, and fruit well, but they will not do so if the roof be entirely covered by Vines. Your taking off a ring of bark will moderate the vigour of the trees and tend to promote fruitfulness, but, unless you give them more light, we fear your chances of fruit are but small.

GRAPES SHANKING (*Idem*).—This is mainly to be attributed to the roots being in a cold, deep, undrained outside border, and the materials composing it not being in proper condition—firm, yet free. A deficiency of air and a high temperature also tend to cause shanking, and so will cold rains and heavy waterings when the fruit is ripening.

PELAGONIUMS FROM SEED (*Ipomoea*).—In our Volume IX, pages 497 and 498, you will find the treatment of seedling Pelargoniums fully described.

WATERING GERANIUMS (*Tatist*).—In watering beds of Geraniums and other plants at this season it is best to apply the water without a rose, so as to wet the soil thoroughly, avoiding watering overhead, which destroys the flowers. If you reside in a town and near a public thoroughfare, an occasional watering overhead is beneficial, as it frees the leaves of dust and gives a fresh appearance to the plants. The spring water will answer, if pumped into an open cistern, and exposed to the atmosphere for at least forty-eight hours; it will thus be rendered much warmer and softer.

WATERING IN DRY WEATHER (*Idem*).—During a dry period frequent watering, as it tends to maintain growth, and sustain a plant in bloom, does not check flowering, though it may tend to increase the amount of foliage, but it is not possible to have a continuance of bloom without an increase of foliage. If the waterings are excessive, then, as in the case of a wet season, the foliage will be excessive.

SALVIA ARGENTHA (J. M.).—There is a plant under this name which is identical with *S. patula*, which is much taller and much less silvery than the true *Salvia argentea*. The latter has very silvery leaves, and is useful as a bedding or ribbon plant. Both may be propagated from cuttings, also from seed, which you may obtain through any of the leading metropolitan or provincial nurseries.

BLOOMING ROSES AT CHRISTMAS (W. A. B. B.).—You can only manage this by growing some of the best autumn-blooming kinds in pots, and about this time cutting them in to four good buds of the current year. Keep them well supplied with water, and frequently syringed overhead; continue them out of doors until November, and then place them in a light and airy house with a temperature of from 45° to 50° by day without sun, and at night the thermometer may fall to 40° without injury. All they want is protection from frost. If the weather proved mild the blooms would expand out of doors, but for safety the plants are best taken under glass.

GRAPES CRACKING (*Novice*).—From your description we think with you that the Grape is the Royal Muscadine. The berries crack from the air of the house being too moist. Probably a little air at night would make all right. The berries will also crack when the soil of the border is kept unnecessarily moist; but usually a moist and badly-ventilated atmosphere is the cause of the evil.

TOP-DRESSING A VINE-BORDER (*Idem*).—Your border being very full of roots, and these being very near the surface, so much so that in autumn the soil cannot be forked over, we advise you to give a top-dressing of rich compost. We have found nothing equal to the following: two-thirds turfy loam from rotted turves a year old, cut 8 inches thick, and laid up in alternate layers with sheep-droppings, or fresh stable manure, and one-third cowdung a year old; the whole well mixed, chopped, and made somewhat fine with a spade, but not sifted; then add one-sixth of bolled half-inch bones. This compost, well mixed, and laid on the border to the depth of 8 inches, will not destroy the fibres near the surface as fresher materials are apt to do, but they will come up into it, and the vigour of the Vines will be maintained.

PROPAGATING ALOEYIA CITRIODORA OR LEMON-SCENTED YERBENA (W. H. B.).—The best time to propagate this plant is when the wood of the current year is from 8 to 6 inches in length. Short stubby shoots with their bases a little hardened are the best. Now is a good time to put in the cuttings, which may be side shoots about 8 or 4 inches long slipped off the plant. The lower end having been made smooth below a joint with a sharp knife, and the leaves removed for half the length of the cutting, the latter should be inserted pretty closely round the sides of a six-inch pot, drained to two-thirds its depth with broken pots, or crocks, and filled to within an inch of the rim with a compost of sandy peat, loam, and sand in equal parts, the remaining space being filled up with silver sand. Insert the cuttings pretty closely around the sides, and up to the lowest leaves, or half their length; then give a good watering, and cover with a bell-glass. Perhaps the best mode of doing this is to place the cutting-pot in one of larger size, and fill the interval between the pots with crocks, placing sand on the top; the rims should be level. Only water when necessary, and then give no more than is sufficient to keep the soil moist, as it must always be. Place the pot in the sunniest window, and shade for an hour or two during the hottest part of the day. In six weeks the cuttings will have struck, and the bell-glass may then be entirely removed, but for three weeks previously it should be tilted a little by day, and put close down at night, wiping the glass in the morning if moisture is found to be deposited on it. The cuttings will strike, but more tardily, and with less certainty, without the glass; they strike best in a gentle hotbed.

VARIOUS (Bus).—1. The Scarlet Geraniums in pots, placed on the lawn and intended for the same purpose next year, we would merely hose before frost, keep them rather dry all winter, give any little pruning they wanted in spring, and top-dress in the same pots after seeing the drainage was all clear. We have a few fine plants which have been about seventeen years in the same pots. 2. The best time to take cuttings of Mrs. Pollock is when you can obtain them—all the summer and autumn, and then in the spring months. The best time to take the plants out of the ground is as early as you can do so, say by the middle of October. 3. Geranium and Calceolaria cuttings: You can take the first as soon as you like. We prefer the latter in October; but you can make them now if you keep them in the coolest place you can find, under a frame or a hand-light. No bottom heat. 4. The Fancy Geraniums done blooming will be best set in an open place out of doors, and in dry weather wet the ground on which they stand instead of watering the plants much. When the wood is well hardened prune back, but not so much as the other kinds, and when making growth shift into similar-sized, or smaller-sized pots. 5. You may sow Dutch Clover and the finer lawn seeds now, in fact, any time when damp. 6. You may prune Laurels and Laurastinus any time before winter.

CANTIA NIGRICANS WITHERING (*A Constant Subscriber*).—Your plant would have done better if you had cut it down last autumn or winter, and had all the growth of this season. As it is unsightly, you had better take it up, pot it, place it in the reserve garden, keep it from frost in winter, and in winter or early in the spring cut it down to the ground.

PRUNING BLAIRII No. 2 ROSE—ARRANGING PLANTS IN A STOVE (*An Irish Subscriber*).—As to Blairii No. 2, cut out all the smaller shoots, lay in a suitable number of this season's shoots, stop them in autumn, and you will have plenty of flowering short side shoots next season. The plants in the body of your house would look well from your proposed balcony; it will shade the plants below it, but that would do for plants liking shade, as Ferns. Would you not obtain room more easily by some kind of a stage? The above considered, however, we have no fault with the balcony.

FRUIT-TREE PRUNING (*S. M. L.*).—We quite approve of your observation with reference to the pruning of pyramid fruit trees, that "it appears to be an unnecessary expenditure of sap and loss of time to wait until the end of August and then cut back to eight leaves." Our principle is to prevent the development of all unnecessary wood, and economise as much as possible the vigour of the tree for the production of fruit-bearing spurs and the increase of the fruit. We therefore advise that pinching be regularly practised during the whole of the summer, and performed so closely that it shall not cause those buds which are desired to form fruiting spurs to be forced into leaf-bearing shoots. The three-foot-long shoots should never be permitted.

SELECTIONS OF GERANIUMS (*Amateur*).—A list such as you suggest shall appear shortly. *Ficus repens* is a stove evergreen.

GRAPES SCALDING (*Woodford*).—This is caused by excessive heat of the sun and the want of sufficient ventilation. Give all the air you can.

NAME OF PLANT (*S. C.*).—*Acanthus spinosus*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending August 4th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. sp.	2 ft. sp.			
Sun. . . 29	29.646	29.509	71	44	64	60½	N.W.	.12	Overcast; very fine; rain; cold westerly wind.
Mon. . . 30	29.761	29.727	70	39	63	60	N.W.	.00	Light clouds and cold wind; partially clouded; only 7° above freezing.
Tues. . . 31	29.744	29.616	65	47	62	60	W.	.18	Cold rain; cloudy and showery; rain at night. [ing at night.
Wed. . . 1	29.879	29.749	75	58	60	59½	S.	.08	Fine, but cold and damp; very fine; overcast; rain.
Thurs. . . 2	29.696	29.480	74	49	61½	59	W.	.04	Rain; cloudy; overcast.
Fri. . . 3	29.777	29.788	74	45	61	59½	W.	.00	Densely and uniformly overcast; cloudy.
Sat. . . 4	29.676	29.606	71	45	63	60	W.	.00	Fine but windy; boisterous; some white clouds in deep blue sky.
Mean	29.781	29.681	71.48	46.00	62.86	59.78	..	0.87	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

FOWLS TO BE KEPT.

BEFORE deciding on the breed of poultry to be kept, it is necessary to take into consideration that which is required from the fowls, and also the conveniences possessed by the intended owner, and the nature of the soil on which they are to be kept. Unless these matters be well weighed, it is useless to ask which are the best layers, or which breed is most profitable.

Where poultry-keeping is a hobby or a fancy, the breed that is preferred will be kept, as emolument is not sought; but where a return is looked for, and a balance-sheet thought of, it is well to prepare for the profit by using such means as may seem likely to secure it. The first that suggests itself is, Where is the market, or what is the mode of sale, and which is in the greater request—eggs or poultry? Some people break off here; they cannot bear the idea of selling poultry—it seems *infra dig.* We think them wrong, but there is an escape for these. The poultry man or maid will do all the trading, merely carrying out the instructions of the master or mistress. We know an instance of a lady worth many thousands who has a large milk trade at her house on her own terms. She charges more for her milk, and buyers have to fetch it, yet she sells all, and others who carry round cannot sell. She never appears in it, the dairymaid does everything. We know another who supplies a whole neighbourhood with eggs and poultry, the dairymaid manages all. This must, then, be considered—whether it is intended to sell in this way, or whether there are conveniences for sending a basket of chickens to market. Different markets have different habits. In some poultry is a trade, in others it is an exception; but it is certain that wherever good poultry is taken it will create a demand, if none exist, provided the place where the market is held be a populous one. There is, however, a demand everywhere for eggs, and at very remunerative prices during the winter months. Then there is always the last resource of the London market. With much experience of markets, we prefer local ones; there are many drawbacks in connection with the metropolitan—carriage, commission, baskets, sending to the station; all these take from the return.

Having satisfied yourself of the requirements of the place in

the way of contribution to the food stock, next study the place itself. If there is a demand for table poultry, and you have a tolerable range—above all, if you have a farmyard, even a small one, keep Dorkings, none will pay you better. If your space is limited, and you have no farmyard, keep either Brahmas or Cochins. If the demand is for eggs rather than fowls, keep Spanish, Crève Cœur, or La Flèche. Choose a light soil if you can.

We have always preferred pure to cross-bred fowls. We think them more profitable, much handsomer, and we always know what we are about to breed; but if crosses are resorted to, even by those who manage them most skillfully, there is always doubt. We should not advise the plan of any one who would for market purposes cross a Dorking with a Brahma Pouter. The rich deep breast of the former would be diminished, and a large-boned, yellow leg substituted. The best cross is, perhaps, between the Dorking and the Game. There is nothing in it that offends; but while strength of constitution is gained, the placidity of temper that is so valuable in a bird intended to be fattened is entirely lost, and the cross between the Game and Dorking must be killed at least a month younger than the pure Dorking. We said, however, that by keeping pure birds we knew what we were breeding. A cross is generally adopted in order to develop in one breed some quality that excels in another, and then the cross is bred out. Thus, Game cock and Dorking hens, to give more strength of constitution to the latter. Second year, son to mother; third, son to daughter; fourth, son to grand-daughter, and then all appear pure Dorkings. Nothing may appear for years to indicate any mixture, and then a dozen years afterwards a friend to whom you have given some of your celebrated "Dorkings," writes you that he has bred pure Game cocks from them. This is the history of all crosses.

PUDSEY POULTRY SHOW.

(From a Correspondent.)

THE third annual Show of Poultry and Pigeons took place on Saturday, the 28th ult., in the extensive grounds belonging to the Prince of Wales Cricket Club. Unfortunately the weather was anything but favourable, as it rained all day, but the poultry were pretty well protected, and the Pigeons were shown in a spacious tent.

The pens of poultry were exceedingly good in quality, but in some classes the entries were very few. It cannot be said that a single unhealthy bird was sent, and not one had pen, excepting the birds

shown by Mr. Broemel, under the name of "Compeine Hamburghs," and accompanied with two pairs of Pigeons with which that gentleman won the first and second prizes in the "Any other class," the former being in the worst condition and feather, while the latter were exquisitely beautiful, and fairly entitled to the position they took. *Spanish* headed the list, and the cup was awarded to a nice pen. *Cochins* and *Brahmas* were very good. A remarkably fine pen of Golden *Polands* stood well for the cup. A very fine pen of Black *Bantams* took the medal for Bantams.

Rouen Ducks were exceedingly good, and some very pretty Brown *Calls* and *Teal* were also shown.

The prize for the best pen of *Pigeons* in the Show was given to Mr. Beldon, for a fine pair of Red *Pouters*, and so good were all the classes, that it could not have been considered a mistake had the extra prize been awarded to any one of the first-prize pens.

The following prizes were awarded:—

SPANISH (Black).—Cup, H. Greenwood, Woodhall Hills. Second, H. Beldon, Bingley.
COCHIN-CHINA (Any variety).—First, H. Firth, Dudley Hill. Second, H. Beldon.
BRAHMA POOTRA.—First, J. H. Pickles, Todmorden. Second, R. Tate, Leeds.
GAME (Black-breasted or other Red).—First, H. Beanland, Dudley Hill. Second, J. Hodgson, Bowling.
GAME (Any other variety).—First, H. Beldon. Second, J. Fell & Sons, Adwalton.
GAME COCK (Any colour).—First, J. Mason, Worcester. Second, J. Hodgson.
HAMBURGHS (Golden-spangled).—First, H. Beldon. Second, R. Tate.
HAMBURGHS (Silver-spangled).—First and Second, H. Beldon.
HAMBURGHS (Golden-pencilled).—First and Second, H. Beldon.
HAMBURGHS (Silver-pencilled).—First and Second, H. Beldon.
HAMBURGHS (Any other variety).—First, H. Beldon. Second, J. Coulson, Stanningley.
POLAND (Any variety).—First and Second, H. Beldon.
GAME BANTAMS.—First and Second, R. Tate.
BANTAMS (Black and White).—Medal and Second, Master C. H. Hutton, Pudsey.
BANTAMS (Any other variety).—First, S. & R. Ashton, Rotherham. Second, T. C. Harrison, Hull.
DUCKS (Rouen).—First and Second, J. Wade, Adwalton.
DUCKS (Aylesbury or White).—First, E. Leech, Rochdale. Second, M. Ferland, Dalton.
DUCKS (Any other variety).—First, T. C. Harrison. Second, Master C. H. Hutton.
ANY OTHER VARIETY OF POULTRY OR ORNAMENTAL FOWL.—First, J. S. Hedley, Rochdale. Second, Master C. H. Hutton.
PIGEONS.—Pouters.—Timepiece, H. Beldon. Second, E. Brown, Sheffield.
CARRIERS.—First and Second, H. Yardley, Birmingham. **Dragons.—**First, E. Yardley. Second, C. Cowburn. **Antelope.—**First, H. Yardley. Second, E. Allison, Knotrop. **Barbs.—**First, G. Hewitt, Bradford. Second, H. Yardley. **Owls.—**First, C. D. E. Royds, Rochdale. Second, J. H. Pickles. **Turbits.—**First, G. Hewitt. Second, H. Yardley. **Archangels.—**First, H. Yardley. Second, C. Cole, Bowling. **Tumblers (Short-faced).—**First, C. D. E. Royds. Second, E. Brown. **Tumblers (Long-faced).—**First, C. D. E. Royds. Second, C. Cole. **Pastels.—**First and Second, H. Yardley. **Trumpeters.—**First, C. D. E. Royds. Second, J. Hawley, Bingley. *Any other variety of Pigeons Turbits or other Doves.—*First and Second, F. Broemel, Kent.

The Judges were Wm. Cannon, Esq., Bradford; and James Dixon, Esq., Bradford.

DRIFFIELD AGRICULTURAL SOCIETY'S POULTRY SHOW.

THE annual Exhibition of poultry in connection with the above Society was held on Friday, July 27th. There were upwards of 260 entries, and many very good specimens were shown; but we were sorry to find that in many cases good ones remained unnoticed, which we think would not have been the case had Mr. Hewitt been able to keep his appointment, but unfortunately circumstances prevented him from attending.

There were several curious additions to the Show sent by two ladies in the neighbourhood. One was a *Stork*; and the other a cage containing a pair of *Sparrow Hawks*, a couple of chickens, and several small birds, all apparently living together in perfect harmony.

We must mention a case of attempted deception which came to light, and very properly excited the indignation of the Judge. It appears that in this case an exhibitor had a good *Dorking* cock, but no hens fit to mate with him; so he borrowed a pair of hens, and with these made up a pen which obtained the first prize. After the judging was over the borrowed hens were removed, and the man's own inferior hens substituted in their place. Then a ticket was attached to the pen, offering them for sale at a low figure (30s.), with the white ribbon still fastened on the pen. Thus, any person who wished to purchase *Dorkings* would be tempted to buy these, thinking he was buying the birds which had been honoured with the first prize. The Judge, on this being reported to him, at once disqualified the pen and rejudged the class, giving the first prize to the pen which stood second, and the second to a commended pen; and we are informed the party was given into custody for improperly removing birds from the Show contrary to the rules.

Unfortunately the day was very unfavourable, the rain falling all the time; and many of the poor birds, being without any shelter, were soaked to the skin. In consequence of the weather, the attendance

of visitors was very limited, and only about £106 was taken at the gate, being something less than one-third of the usual amount. The following is a list of the awards:—

DORKINGS.—First, disqualified. Second, M. Hunter, York. *Chickens.—*Prize, F. Key, Beverley.
SPANISH.—First, H. Beldon, Bingley. Second, G. Holmes, Driffield. *Chickens.—*Prize, H. Beldon.
GAME (Black-breasted and other Reds).—First, W. Charter, Driffield. Second, J. Smith, Driffield. *Chickens.—*Prize, R. Hardy, Lookington.
GAME (Duckwing or other Greys).—First, W. Boyes, Beverley. Second, W. Layoup, Driffield. *Chickens.—*Prize, O. A. Young, Driffield.
GAME (Any other variety).—First, W. Charter. Second, E. Bialby, Beverley. *Chickens.—*Prize, W. Charter.
COCHIN-CHINA.—First, T. H. Barker, Hovingham. Second, H. Mackin, Driffield. *Chickens.—*Prize, T. H. Barker.
POLANDS.—First, H. Beldon. Second, Mrs. Proctor, Hull.
HAMBURGHS (Golden-spangled).—First, G. Sutton, York. Second, R. Tate, Leeds.
HAMBURGHS (Silver-spangled).—First, H. Beldon. Second, T. Holmes, Driffield. *Chickens.—*Prize, H. Beldon.
HAMBURGHS (Golden-pencilled).—First, G. Holmes. Second, H. Beldon. *Chickens.—*Prize, H. Beldon.
HAMBURGHS (Silver-pencilled).—First, H. Beldon. Second, G. Holmes. *Chickens.—*Prize, H. Beldon.
ANY OTHER PURE AND DISTINCT BREED NOT PREVIOUSLY CLASSED.—First and Second, R. Loft, Woodmansey (Sultans). *Chickens.—*Prize, R. Loft (Sultans).
FARMYARD CROSS.—First, W. Charter. Second, G. Robinson, Frodingham.
BANTAMS (Black and White).—First, Miss Mosey, Driffield (Black). Second, J. R. Jessop, Hull (White).
BANTAMS (Any other variety).—First, R. Wilson, Norton, Malton. Second, G. Brown, Driffield.
GENE.—First, Mrs. O. A. Young, Driffield. Second, Mrs. Nicholson, Little Driffield. *Goslings.—*Prize, Mrs. Mosey, Skerne.
TURKEYS.—First, W. Charter. Second, Mrs. Dawson, Poundsworth, Driffield. *Poult.—*Prize, Mrs. O. A. Young.
GUINEA FOWL.—Prize, Mrs. O. A. Young.
DUCKS (Aylesbury).—First, G. R. Young, Driffield. Second, E. Harrison, Warter. *Ducklings.—*Prize, E. H. Clements, Wetwang.
DUCKS (Rouen).—First, Mrs. Jordan, Eastburn. Second, E. Morris, Driffield. *Ducklings.—*Prize, Mrs. J. S. Jordan.
DUCKS (Any other variety).—First and Second, J. R. Jessop (Teal and Carolina). *Ducklings.—*Prize, Mrs. Jordan.
PIGEONS.—Crossovers.—Prize, W. Ness, West-Linton. *Carriers.—*Prize, J. R. Jessop. *Trumpeters.—*Prize, F. Key, Beverley. *Jacobins.—*Prize, H. Topham, Bainton. *Pantals.—*Prize, R. Wilson. *Barbs.—*Prize, E. Leeson, Driffield. *Nuns.—*Prize, J. Marshall, Driffield. *Any other variety.—*Prize, W. Leeson, Driffield.
HABITS.—First, W. H. Young (Lop-eared). Second, J. R. Jessop (Himalayan).

SINGLE COCK CLASS.

DORKINGS.—Prize, J. Hatfield, Cottingham.
SPANISH.—Prize, R. Tate, Leeds.
GAME (Black-breasted and other Reds).—Prize, H. M. Julian, Hull.
GAME (Duckwing or other Greys).—Prize, T. Layoup, Driffield.
GAME (Any other variety).—Prize, W. Charter.
COCHIN-CHINA.—Prize, J. Hatfield.
POLANDS.—Prize, H. Beldon.
HAMBURGHS (Golden-spangled).—Prize, J. Hatfield.
HAMBURGHS (Silver-spangled).—Prize, H. Beldon.
HAMBURGHS (Golden-pencilled).—Prize, G. Holmes.
HAMBURGHS (Silver-pencilled).—Prize, W. Wallis, Driffield.
ANY OTHER PURE AND DISTINCT BREED NOT PREVIOUSLY CLASSED.—Prize, R. Loft (Sultans).
FARMYARD CROSS.—Prize, W. Charter.
BANTAMS (Black and White).—Prize, J. R. Jessop (Black).
BANTAMS (Any other variety).—Prize, G. Blakey, Driffield.
 The Judge was B. Baxter, Esq., Elslack Hall, Skipton, assisted by E. Riley, Esq., South Dalton.

TAVISTOCK POULTRY SHOW.

THIS was held on the 1st inst., and proved highly successful. Previously the display of poultry had been confined within the narrowest limits, but a wonderful expansion has taken place; and though the prizes offered were comparatively small in amount, the competition was keen, and the number of entries very large. The Exhibition was pretty strong in *Game* fowls. There was also a very good show of *Cochins*, and some excellent specimens of *Hamburghs*, though the number of the latter was small.

Pigeons were not in very great force, but what there were were good.

DORKINGS (Any variety).—First, — Phillips, Calstock. Second and Third, — Reed, Calstock. *Chickens.—*First and Second, — Phillips.
GAME (Any variety).—First, Second, and Third, — Collaott, Tavistock.
COCHINS (Any variety).—First, — Phillips. Second, — Bryant, junr. Third, Rev. J. Wolcombe, Stowford. *Chickens.—*First and Second, Rev. J. Wolcombe.
HAMBURGHS (Any variety).—First, M. Bowden, Tavistock. Second, — Hodge, Tavistock. Third, S. J. C. Blanehard, Tavistock. *Chickens.—*First, — Botterill, Grimston. Second, — Williams, Tavistock.
BRAHMAS (Any variety).—First, G. Spencer, Tavistock. Second, — Kingland, Plympton. *Chickens.—*Prize, — Kingland, junr. Tavistock.
SPANISH (Any variety).—First and Second, — Reed, Calstock.
MINORCAS (Any variety).—Prize, — Polgase, Hayla. *Chickens.—*First — Sowden, Mary Tavy. Second, — Lang, Tavistock.
BANTAMS (Any variety).—First, C. V. Bridgman, junr., Tavistock. Second, Miss Perry, Liddon Farm, Brestor.
ANY OTHER PURE BREEDS.—First, — Bolt, Gunnislake (Polands). Second, — Phillips (Polands). Third, Mrs. Maddock, Whitchurch (Guinea Fowls).

DUCKS (Any variety).—First, C. Wileford, Tavistock. Second, — Newberry, Prince Town.
FALCONS.—First, — Merrifield, junr. Tavistock. Second, — Williams, Tavistock. Third, J. Brawn, Tavistock.
RABBITS.—First, — Merrifield, jun. Second, — Baker, Tavistock. Third, Rev. J. Wollocombe.

CAGE BIRDS.

CANARIES (Yellow Belgian).—First and Second, S. J. C. Blanchard, Tavistock. Third, — Rook, Plymouth.
CANARIES (Other Yellow).—First, J. Brawn. Second, T. Betterill, Grimstone.

CANARIES (Mottled or Fancy).—Prize, — Davy, Tavistock.
MULES.—First, W. Williams. Second, J. Truscott.
GOLDFINCH.—First, — Stanbury, Tavistock. Second, S. J. C. Blanchard.
THRUSH.—First, J. Aptom, Tavistock. Second, — Fallow, South Sydenham.

BLACKBIRDS.—Prize, — Hicks, Tavistock.
BEST COLLECTION OF CAGE BIRDS.—First, T. Betterill. Second, J. Brawn.

JUDGES.—Messrs. E. Cornelius, J. Stannos, and J. Doel, Union Street, Plymouth.

NOTES ON BIRDS OF PREY IN ESSEX.—No. 8.

The Shrikes or Butcher Birds form a connecting link between the Birds of Prey and the Pies. But three species are found in this country, and one of them is migratory. Their food consists chiefly of the larger insects, mice, and sometimes small birds. They take their name from the fact, that though their beaks are very strong, yet their talons not being strong enough to hold their prey, as with the Hawks, they hang it on a thorn and thus tear it to pieces.

The *Blue Shrike*, or *Greater Butcher Bird*, is very rare, I never saw but two.

The *Woodchat* is about the size of the Song Thrush, in colour brown, with a very bright orange spot on the top of the head. It is so very rare that I never saw but one, and that was at Gilston, on a Christmas eve; it was perched on a thorn by the side of the river, and allowed me to approach very near to it.

The *Red Shrike*, or *Lesser Butcher Bird*.—This is somewhat smaller, is migratory, arriving here about the middle of May. The male is smaller than the female, and is a beautiful bird for its size. At times it is very noisy. One, which a little boy said he had found by itself, was once brought to me, and it was easily brought up. I had a large wicker cage made for it and it lived with me for nearly four years. All the anecdotes which I could relate of this pleasing intelligent bird would fill a small volume. It was so tame that it used frequently to be allowed to go about the house, and when it pleased would return to its cage of its own accord. It was very fond of mice, and when one was given to it it would hang the mouse on the hook provided for the purpose in the cage, and thus tear it to pieces. Like Owls, it would cast up the indigestible parts of its food; it was as true as a dog could be in giving notice of the approach of a stranger to the door, and knew my step when I came home, expressing its joy by its voice and gesticulations. It was ill for a week before it died, and when I saw it lying dead, my wife telling me at the same instant "he is dead"—

"Down my cheek a tear unbidden stole."

Birds of this species used to be frequent, but have become very rare. It is now the middle of June, and I have not seen one of them. This completes the list of all the rapacious birds which I have known in this district.—D. S. FRENCH.

TAKING HONEY FROM FRAME HIVES.

PLEASE state in your next the proper time and manner of taking honey from frame hives, with and without supers.—AMATEUR.

[Supers should be removed when filled, or in any case as soon as the honey season is over, which of course varies in different localities. They are taken from frame hives in the usual way. If the stock hive can spare them the two side combs may be removed in October, and the bees will probably winter just as well without them, as they are very apt to become mouldy if left in the hive. Great care and judgment should, however, always be exercised in depriving a stock hive of any portion of its stores.]

LARVÆ ON HIVE-BEARD.—Yesterday morning I found the entrance of one of my hives, containing my first swarm this year, strewn with larvæ, which had apparently been dragged

out of the hive by the bees. Of what is this proceeding indicative?—F., Westmoreland.

[Such a wholesale expulsion of larvæ indicates a sudden and considerable fall of temperature within the hive.]

DRIVING AND UNITING BEES—ATTACHING COMBS TO BARS.

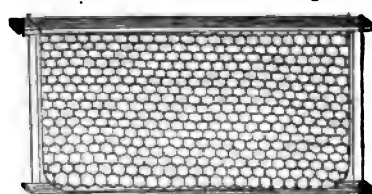
I HAVE two hives of last year, as well as a swarm, from which I wish to take the honey and put the bees into an empty bar hive. What would be the right time at which to perform the requisite operations, and at what hour of the day? Will you also inform me how I am to manage, as I am quite inexperienced? Of course I shall have to feed the bees throughout the winter. I also thought of taking a bar of honey from another hive, inserting it in the empty hive, and putting in an empty one instead. Should this be done before the union is effected or afterwards?

What is the best way of stupefying bees? and is it injurious to do so? likewise is it useful? I shall by feeding make up the weight of both hives to about 20 lbs., exclusive of the weight of the hive. That will be heavy enough, I suppose? The bees in one of my hives have begun to kill the drones, but none of the others.

If I attach pieces of comb to the bars will the bees put in them the food I give?—G. J.

[The operation may be performed as soon as the honey season is over. The bees should be expelled by driving during the forenoon of a fine day, as described in page 59 of the fifth edition of "Bee-keeping for the Many," and we should drive the inhabitants of two stocks into the same straw skep, leaving the third to be added afterwards, or to be formed into a second colony in conjunction with another condemned stock from some neighbouring apiary.

The bees having been expelled, the combs should be cut out, and sufficient brood-comb will probably be found to admit



of a piece being attached to every bar, which may be done by means of slips of wood and binding-wire, as represented in the annexed sketch. The hive being thus furnished, the bees may

be inducted into it by being knocked out of the straw skep on a cloth spread on a table or on the ground, and the hive placed on them, supported on two sticks about an inch in diameter, laid on the cloth some 8 or 9 inches apart. As soon as the bees have ascended, the hive should be put in its place, and the combs will be so rapidly fixed by them as to permit of the removal of all artificial supports at the end of forty-eight hours. This having been effected, copious feeding by means of an inverted pickle-bottle filled regularly every evening (or morning and evening, if you wish for more rapid progress), should commence and be continued until the combs are extended and the hive reaches the desired weight, which should not be less than 20 lbs. nett in October, and proportionally more if feeding be concluded earlier in the autumn. We believe that stupefaction injures bees. It is certainly wholly unnecessary. Any combs which you attach to the bars will either be stored with food or filled with eggs by the queen, whose breeding powers will be much stimulated by the process of feeding.]

BEE-KEEPING IN WARWICKSHIRE.

I AM glad to be able to say that my Ligurian stock, recently obtained from Mr. Woodbury, has prospered. I succeeded in getting an artificial swarm into a second frame hive, and as I only took one brood-comb from the Ligurians they hardly felt the loss. I used a very strong stock of black bees by removing, as recommended by him. The swarm soon became strong, and went to work vigorously, and I hope have raised themselves an Italian queen. I feared that the original Ligurians would have thrown a natural swarm this month (July), they were so strong, and I could not obtain another bar-and-frame hive, so I was at a loss how to prevent them; but I gave them a large bell-glass which they are now filling, and they also hang in a large cluster at the entrance.

The hive of black bees which I used to help in making the artificial swarm was a last year's swarm, and early this last spring I cut a hole in the top of the hive (a common straw one), and fixed on a board, and they have yielded me three glasses of splendid honeycomb, weighing from 6½ to 9 lbs. each. I have also had two large glasses well filled, each from a this year's swarm.

One of my stocks threw a small second swarm on the 9th of July, and as they had been filling a glass I was anxious to make them go back to their quarters again, but could not succeed in catching the queen, though I had them on the ground on a tablecloth, and turned them over while kneeling over them for fifteen or twenty minutes, and also put them backwards and forwards into a hive several times. At last they all clustered again, and I hived them in a large bell-glass, and last week I sent them to a flower show three miles away. As they had half filled their glass, and were not numerous enough to hide their white new-made combs, they looked very well, and, together with four glasses of well-filled honeycomb, formed a very pretty group, which was much admired and gained the first prize.

I intend selling all my black bees (six stocks), this autumn, and starting next spring with only the two stocks of Ligurians, and letting them swarm naturally, using straw hives, as the bar-and-frame hives are expensive and difficult to procure. I hope that any one who tries bee-keeping may feel as well satisfied and as much interested as myself.—S. B.

THE EGYPTIAN BEE.—PART III. ITS ACCLIMATISATION IN THE NORTH OF GERMANY.

(Continued from page 94.)

HERR VOGEL next discusses whether the Egyptian bee is more sensitive in rough weather during summer than the northern and Italian varieties. In reference to this question he says—"Although the average annual temperature of a country or place is all that is generally stated with regard to its climate, it is not sufficient merely to quote the medium annual temperature of Egypt and North Germany, in order to judge of the probability of the successful acclimatisation of the Egyptian bee, but a statement of the average temperature of shorter spaces of times becomes necessary. We will, therefore, compare the temperature of Egypt and North Germany for the first five months in the year, according to Réaumur's thermometer.

	January.	Feb.	March.	April.	May.
Cairo (80° N. lat.)	16.60	10.72	14.48	20.40	20.56
Berlin (50° 20' N. lat., and 81° east long.)	10.92	18.94	15.04	14.43	11.75

"Between the temperature of the winter months at Cairo, and the summer months of Berlin we find a difference of but a few degrees. In Cairo the thermometer in winter sometimes falls as low as 8° below zero of Réaumur, but only for a short time. The chief harvest time of the Egyptian bee in its own country is during the coldest months of the year, from January to March. In May the harvest is finished in the lowlands, and many districts in Egypt then look like a dead desert. The Scharáki districts only, which in consequence of artificial watering give three harvests annually, furnish occasionally some pasture for the bees. In districts in Germany which are poor in honey, the chief gathering takes place in May, June, and July, and these months have the same temperature as the Egyptian winter. The Egyptian bee is, therefore, quite at home in our summer—as happy as 'the little fish at the bottom of the sea.'"

"At from 10° to 12° of Réaumur (55° to 60° Fahrenheit), the Egyptian bees are in full flight, at which temperature our native bees generally only begin to take wing. When the bees of an Egyptian stock begin to fly, it is not only a few single bees that fly out for some time, but the whole stock is immediately in full flight. The Egyptians always rush forth from the entrance like ants from a hole made in their nest. During mild days in November the Egyptians carried in pollen and honey, and came home in full flight, whilst only a few single bees of the other species were to be seen. I never saw Egyptians chilled. A German or Italian bee is very soon overtaken by an Egyptian bee in a race; the quickness of the children of the Nile, is, however, most apparent in the queens. A fertile German or Italian queen walks but slowly and heavily on a comb, whilst an Egyptian one runs as quickly from one

side of the comb to the other as the comb can be turned round. Great activity, quickness, and agility are the general characteristics of the natives of warm countries, and by this observation in natural history, the above-mentioned peculiarity of the Egyptian bee may be explained.

"During the hot season in Egypt the thermometer stands at 26° to 80° R. (92° to 100° F.), in Upper Egypt, even in the shade, 30° to 84° R. (100° to 110° F.). Cairo has an average temperature of 22.96° R. in June, 23.92° in July, 23.92° in August, and 20.96° in September. One might suppose, therefore, that the Egyptian bee would continue to fly out and to work in Germany even in the greatest heat, because it must have been accustomed to as great a heat in its native country: Such, however, is not the case. The Egyptian, like the northern and Italian bees, cease working when the temperature of the interior of the hive has reached about 80° R. (100° F.), and like them they remain inactive, some on the combs and inner walls of the hive, and some outside the entrance. If the bees were by their activity still more to increase the temperature of the interior of the hive, the waxen combs must soften and fall down. The inactivity of the bee, therefore, during very great heat in the interior of the hive is evidently an effect of instinct. In Egypt, also, the bee is inactive in the hot season, for the country is then bare of flowers.

"THE EGYPTIAN BEE IN THE WINTER OF GERMANY.—In Egypt the bee is able almost every day to hum joyfully through the air; but Germany has a winter in which the temperature not unfrequently falls to 20° or more below zero of Réaumur, and the cold keeps the bee imprisoned in its hive. Already before the actual introduction of the Egyptian bee, the question has been mooted whether the hive bee of Egypt could survive our severe winters. From the beginning I believed the Egyptian bee capable of wintering here, and I supported my opinion by the following passage from 'The Acclimatisation Journal,' for 1864, page 40:—"The genus *Apis* has a very peculiar nature—i.e., all the species, including the different varieties, of *Apis* have a similar and unchangeable nature and manner of living." Let us consider, then, that the genus *Apis* lives in permanently organised societies, and in this forms an exception among the class of insects. Humble bees' and wasps' societies are dissolved in autumn; the fertile females only hibernate during winter and survive till spring. Our ants also certainly live in lasting communities, but at about 1° R., they likewise hibernate, and the genus *Termites*, which belongs to warm climates, is not to be compared with the bee. The bee does not hibernate, it only passes into a state of rest in winter, which state is evidently conditional upon the want of that degree of warmth which is necessary for its activity. Any organic cause for the winter's rest of our bee does not exist, as it prospers equally well between the tropics without any rest in winter. The specific or personal temperature of an individual bee is very low indeed, yet the whole society in the hive produces a higher temperature, which may be felt. According to experience, the production and supply of animal warmth is intimately connected with the process of breathing and nutriment. The bee possesses a trachean system like no other insect known to Leuckart (*vide* Von Berlepsch, 'The Bee and Bee-keeping,' page 188). The more severely the bee is attacked by cold in winter, the more food it consumes, and the more it accelerates its breathing, until by actual roaring it produces that degree of warmth necessary for its existence. The extremity of the abdomens of those bees which hang on the outside of the cluster often come very near to the hoar frost in the hive, whilst in the heart of the cluster there are from 9° to 12° of warmth. It is universally acknowledged, that the lethargy into which our bee falls in winter, is contrary to its nature. Likewise it cannot be disputed that the winter of Germany is contrary to the nature of the Egyptian bee; it will, however, survive our winter just as well and just as badly as our northern bee, if it be kept in hives which afford shelter against too great cold. The genus *Apis* belongs to the cosmopolites among animals, and is able to prosper in countries the seasons of which have an extreme climate.

"Dr. Buoy also states from experience, in 'The Acclimatisation Journal,' (1868, pp. 295, &c.), that a transplantation of animals from warmer to colder countries is more frequently successful than unsuccessful.

"The Egyptian stocks are quiet in winter. During only the most severe cold (3rd and 4th of January), they caused a low humming to be heard, just like the German and Italian stocks.

It may also well be supposed that the trachean system of the Egyptian bee will be strengthened by a greater activity during our winter. On the 16th of this month (January, 1885), the bees of an Egyptian stock were flying quite strongly at 4° in the shade, and 9° R. in the sun, between 10 and 11 o'clock in the morning. No bee got chilled, and no sign of dysentery could be perceived. I could not suppress my curiosity, and opened an Egyptian stock. When I merely looked over the floor of the hive I was greatly delighted, for but a few dead bees lay there. The stock was perfectly healthy, and the queen, with her abdomen full of eggs, paraded the combs as if in summer. In two hundred to three hundred cells, eggs and larvae were found. To-day (January 28th), at noon some bees were seen at the entrances of all the stocks, and in the Egyptian stocks also there is as yet no trace of dysentery. These observations speak strongly for a fortunate wintering of the Egyptian bee."

I may here add, that Herr Vogel's favourable anticipations were completely verified. His Egyptian protégées passed the ordeal of the German winter of 1864-5 unscathed, and were introduced into my apiary rather late the following summer, with what result will in due course be related by—A DEVONSHIRE BEE-KEEPER.

(To be continued.)

REMOVING SUPERS—DRIVING—WOODBURY HIVES.

I HAVE eight stocks of bees in an old straw hive, and one, or rather two, swarms which I put together in a Stewarton hive, where they are working away most beautifully and peaceably. The super is now nearly filled with honey, but the cells are not yet sealed-up. How soon may I take that away? and am I to put on another on taking that off? The hive is now three boxes in height. I notice a good number of, I think, young bees out the last few days on the landing-board, and I fear putting a fourth box under the brood one lest it may prevent stinging going on in the super; and though the bees are out, I think it is not through want of room, but excess of heat.

I would wish much to avoid destroying the bees for their honey, and as I purpose next year working the Woodbury hive, would you say, drive the bees to be deprived into the old straw hive, feeding them during the winter, putting all the swarms from the stocks into Woodbury hives next year; or should I drive into Woodbury hives? If I should do the latter, I can have them made at once.

I never drove a hive in my life, but hope to learn; so if I drive a quantity equal to a good swarm (and if there is brood in the hive, the nurses will, I understand, stop to mind that), will not the little colony be so weak as to be at the mercy of their stronger neighbours, honey, not swarms, being my object now? I am particularly anxious to know the system of driving theoretically before I practise it.

I do not know the meaning or use of the adapting-board in the Woodbury hive, and I would wish to understand its use before having any hives of that description made; and though they may be difficult for a beginner to manage at first, do you not consider it the best hive for all practical purposes?—JOHN J. SMYTH, Rathcoursey.

[We doubt whether the bees will, so late in the season, seal over the cells which still remain open in the super; but you must form your own opinion on this, and also as to whether the honey harvest is over in your locality. If it be so, and we should deem it probable, the super had better be removed at once, and temporary room may be given to the bees, should they require it, by nading. In driving a stock of bees do not attempt half measures, but drive all or none. In your case we should drive the inhabitants of two adjoining common stocks one after the other as rapidly as possible into an empty straw hive, then out onto the combs and fit such of them as contain brood into the Woodbury frames, temporarily securing them with zinc clips, binding-wire, slips of wood, &c., as ingenuity may suggest. It will go hard if out of two hives you cannot furnish at least six, and perhaps eight or ten, frames with worker combs (drone combs should, of course, be rejected), containing more or less brood as well as some honey, and yet contrive to retain the lion's share of the latter for yourself. Having thus, either wholly or partially, furnished their new habitation, the bees may be inducted into it by being knocked out on the top of the bars (the crown-board being removed for that purpose), or on a cloth spread on the ground and the hive placed over them, resting on a couple of sticks about an

inch in diameter, and laid down on the cloth 8 or 9 inches asunder. As soon as the bees have ascended they should be put in the place previously occupied by the old hives. At the expiration of forty-eight hours all artificial support may be removed from the combs, and the stock should then be fed up to a sufficient weight to stand the winter. The adapting-board of the Woodbury hive must be substituted for the crown-board whenever a super is put on. We believe it to be the best hive for any bee-keeper who aspires to become also a bee-master.]

BARS OF WOODBURY HIVES—PUTTING IN GUIDE-COMBS.

WHY should the bars in Woodbury hives be made to separate from the frames? Would they not be better if fixed to them? I think they would. What are they left loose for? and should guide-comb be attached to every bar before putting in a swarm? Would rubbing the bars with beeswax be sufficient, as guide-combs cannot always be had? I am making a number of Woodbury hives for my apiary.—S. H.

[Mr. Woodbury, in the description of his frame hive, which appeared in page 73 of our third volume, states that he has found the power of separating his bars from their frames very advantageous, in enabling him to use frames in stock hives and bars in supers without forfeiting the advantages arising from the unlimited interchangeability of every comb in every super in the apiary; and we may add, that we know other scientific apiculturists who, having commenced with the ordinary frame, have, in order to obtain these advantages, afterwards adopted what Mr. Woodbury has styled his "compound bar-frame." Use as many guide-combs extending to as nearly the entire length of the bars as you can procure. These may, however, be eked out by being alternated either with the ribbed Woodbury bar or with flat bars, to which are attached strips of artificial comb. Rubbing the bars with beeswax is of little or no use.]

SPARROWS EATING LIVE BEES—LONGEVITY OF BEES.

NOTWITHSTANDING the doubts of one of your late correspondents, I have had again, for the third time, to make a raid upon the sparrows' nests round my dwelling, to prevent their young being fed with living bees from my apiary. So determined, however, were they at this work, that in a day or two afterwards I detected one cock bird over and over again flying up at the hives like a flycatcher, and carrying off bees returning to their homes heavily laden, and with them he was feeding in a neighbouring bush two young birds, sufficiently fledged to have escaped from the nest. He at last brought them down close to the hives, so as to save himself the trouble of a flight to and fro, and set to work in a most determined manner. This was too much for my philosophy, so calling my gardener we had only to wait about five minutes, when back he came again, and he was then and there shot, *in flagrante delicto*, and I only hope that his two children will learn a salutary lesson from their parent's fate. Another couple detected in the same act shared a similar fate, since which I have not been troubled. I cannot help thinking that a bee-eating sparrow is like a man-eating tiger in India, which, having once tasted a forbidden food easily obtainable, can only have the fatal propensity destroyed by death.

With regard to the life of the working bee, particularly during the working season—say from April till August, I think it is very short, rarely exceeding two months. In proof of this a singular circumstance happened to one of my hives containing Ligurian bees, obtained in May from Mr. Woodbury, which I will here relate. On the 1st of June I had a prime swarm from an ordinary stock of black bees, which had hardly settled in an adjoining hedge, when my only Ligurian hive unexpectedly threw a swarm, which at once joined the other. As I was absent at the time in the City, my gardener was afraid to hive them together, irrespective of the chance of being stung, as they were evidently in a state of great excitement. On my return home, I after some difficulty got them into a large hive, having first captured the Ligurian queen, whose person during the operation I could not mistake from the large size and golden colour of her body. I then determined to return the united swarm to the original Ligurian stock, which I did during the evening (a process which I have always performed

satisfactorily without any fighting, many times during successive years, simply by giving three puffs of tobacco smoke to each swarm to be united, and so making them all small fowls for the time). I, of course, put on a large straw top, otherwise they could not then all have found room, and looked forward to at least 50 lbs. of honey from this immensely strong hive. As it was, however, they now managed by dint of squeezing to keep nearly all in the centre box, and though I had guide combs in the super, they did not extend them, evidently bent on not remaining. I looked out the next afternoon and evening to see which queen was turned out dead, as I have almost always found one on the ground in this plight within twenty-four hours, but could see nothing of her. On the 9th of June at eleven o'clock, the whole united mass swarmed again, and such a swarm I never had in all my experience. They tried to settle on two or three shrubs and trees, but all the boughs gave way, and the whole mass kept falling to the ground; at last they went into a hedge, which sustained them, and they were hived in a large straw cover ready at hand.

On examination I found that the Ligurian and common bees were so intermingled, both in the swarm, and the stock from whence they came, that it was impossible to state which was Ligurian and which not. Now, also came the question, Which has the Ligurian queen? I thought this a good opportunity to test the respective ages of each sort of bee, should it so happen that the old Ligurian queen remained in the stock, and the common queen with the swarm, or *vice versa*. I therefore put the combined swarm into a Stewarton hive, and on the next stand to the Ligurian, so as to afford the greatest facility in watching. At first I noticed that the swarm was pretty equally divided between Ligurian and common bees, perhaps, if anything, the former being in the majority. As regards the stock, I should say the Ligurians were as five to three, a decided majority. Both worked well, and considering the comparatively empty state of the stock hive immediately after swarming, it was wonderful how rapidly the latter increased again in numbers. Within three weeks I began to notice in the stock that the common bees were dwindling away, although in the swarm they were still about equal. Within the month the stock became five to one in favour of the Ligurian, and the swarm then began to show three or four to one in favour of the common bee, and I could easily see in the swarm numbers of the young black bees daily coming out on the alighting-board. In a similar way I could see in the stock the young Ligurians. This at once showed to me that the old Ligurian queen had remained in the stock hive, whilst the old common queen had led out the swarm. Within five or six weeks the relative proportions rapidly became twenty to one in favour of the Ligurians in the stock and ten to one in favour of the black bees in the swarm, and so on, until last Saturday (July 28), I could not detect a single black bee in the Ligurian stock, and only six Ligurian bees in the swarm, after half an hour's close watching at the entrances in the middle of a fine working day, when the bees were out in great numbers. I may add that the six Ligurians which I saw were almost worn out, their wings being ragged, and their bodies showing that peculiar dark look indicative of old age.

Both stock and swarm are very strong in bees, the latter having filled a super of about 20 lbs. of honey, which I shall shortly take off. What has become of the Ligurian in the one case and the common bees in the other? It is quite clear that they have all died off, and their places been supplied by young bees; for there is no diminution of numbers, but rather the reverse in both cases. It also follows, of course, that if the Ligurians in the one case, and the black bees in the other, have gradually and visibly died away, their contemporaries in each case, *pari passu*, must have perished too; the result is, therefore, that at all events during the working season, the whole hive is renewed within two months!

Another fact is also proved—that the duration of life of the Ligurian and common bee is about the same. Now, it does not follow that the age of the bee is always limited to two months; on the contrary, during the late autumnal and winter months, when little or no hatching of eggs can take place, I expect that the bee may live four or five months, as there is then little or no wear and tear, and their flights are limited to the neighbourhood of the hive; but it is quite evident that during the working months the mortality is immense, and only replaced by the great fecundity of the queen bee.

From the little experience which I have had of the Ligurian bee, I should say that the queens of this sort are decidedly more prolific than those of the common bee, as the increase of

population in the stocks of the black bee which have swarmed is not nearly so large as that of my Ligurian stock. The latter also seem to carry into the hive twice the quantity of farina on their legs as compared with the other sort—a sure sign of extensive breeding.

Allow me to add that, as a whole, I consider this season to have been a bad one for honey. Our main resource here is the Limes, which, although well flowered, soon withered, owing to the excessive heat of the direct rays of the sun. The white clover is now their last resource, but it is not so abundant as last year.—A BLACKHEATH'AN.

OUR LETTER BOX.

FEEDING FOWLS—PRESERVING EGGS IN LIME (J. R. B.).—Nothing can be so injurious to fowls as feeding from a trough. Their own excrements, if they are healthy, will not be picked up to an injurious extent; anything else is beneficial. We believe that food thrown down, mixed with earth, is better than clean corn. Fowls have no teeth. Our feeding will be cheaper than the trough, which is extravagant. The lime should be the first place be mixed stiff enough to cause an egg to stand upright in it. When poured over them it should, when dried, form a perfect crust. Lime water would be useless.

ATLESBURY DUCKS (Aylesbury).—Ducks begin to lay at eight months old. Except in case of accidents, to which they are liable, drakes begin to be useful at the same age, and are good for three or four years. We have known a drake perfectly useful at six years old. We cannot define "pulse."

GAME CHICKENS UNABLE TO STAND (J. H.).—The first symptoms you describe are those of great weakness, and may arise from insufficient or improper feeding, or from overgrowth. It is more frequently met with in cocks than pullets. Cochins and Spanish are subject to few if any ailments. If all your birds are kept precisely under the same circumstances as to food, liberty, nature and construction of roosting place or house, then there is only one conclusion to arrive at—it is hereditary in the strain of the cock, although he himself suffers not from it. He must be changed. As these symptoms may, however, be caused by cramp, which does not interfere with the appetite, and which may arise from a wooden, stone, or brick flooring, if such exist, remove either the flooring or the birds, and you will, we believe, find the cure. The best treatment for those affected is to feed them solely and plentifully on stale bread soaked in strong old ale.

CRYSTAL PALACE POULTRY SHOW (M. B.).—The shows at the Crystal Palace have been discontinued for some years. We have not heard of any intention to resume them.

POULTRY RESULTS—CHOOSING FOWLS (Two-years Subscriber).—Your result is a very good one. Five hens in ninety-one days laid 349 eggs. Our opinion is, that it is in every way better and more profitable to keep pure than cross-bred birds. Such a cross as you mention, Cochins and Spanish, must be a mistake. The Cochins could not improve the brood of the Spanish. One is a broody hen, the other never sits; one lays a large white egg, the other a small brown one; one has a blue, the other a yellow leg. The object of a cross is to develop some particular point or quality in a bird, by obtaining a cross from one that possesses it or them in a large degree. Thus, if a particular strain of Game is lacking its courage, ferocity, hardness of feather and bone, a cross is at once sought with the Malay, because it possesses all these qualities. Grey Dorkings would seem to do well with you, better than any of your crosses. If you mean to cross, never put sitters and non-sitters together. Game and Dorking make a much better cross than Game and Cochins.

PIGEON APOPLECTIC (Jero).—Your Fantail cock seems to be suffering from apoplexy. Do not let him have any hempseed. Give him a pill containing one grain of calomel; repeat the dose for two or three successive nights, and then purge him with castor oil.—B. P. B.

POWTERS WITH FOUL BREATH (Amateur).—If you examine the mouths of your Powters you will probably find cheesy-looking lumps, which contain matter causing the disagreeable odour you refer to. Remove the matter by scraping it away with a small wooden spatula, and rub the place thoroughly with caustic. Give your birds freedom, and put flowers of sulphur in their water.

BULLFINCH ASTHMATIC (Tolchard).—Your Bullfinch appears to be asthmatic. Do not give it any hemp or rapeseed. Let it have bread and milk, and lettuce, chickweed, and groundsel; also put some Spanish liquorice in its water. Do not out the tongue.—B. P. B.

SISKIN (Miss Hughes).—We suspect you have fed your Siskin on food that was too stimulating, such as hempseed and rapeseed. Confine the birds more to canary and millet, giving them occasionally a little mawseed and plenty of green food. Keep a place of sulphur in their water.

BREEDING MEALWORMS (E. S. G.).—Mealworms are the young of the common black beetle (not cockroaches, which are often called black beetles). If some of them are put in a tub with some meal they will lay eggs, and these will hatch into the much-coveted mealworms for feeding cage birds. Almost any miller or baker can provide some for stock, but they do not like acknowledging them.—B. P. B.

MULE CANARIES BREEDING.—Some time since I wrote to you respecting Canary Mules breeding. I have now five young birds from a cock Canary and a Greenfinch hen Mule, very strong. The hen is again sitting on five eggs.—W. B. H.

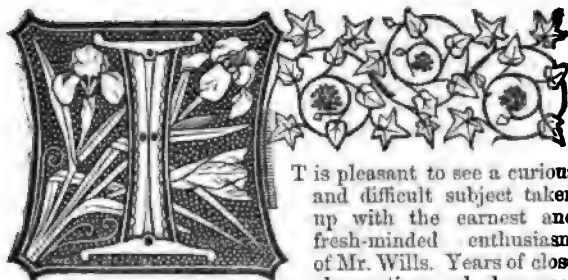
SILKWORMS (J. S., Torquay).—Your management of the Silkworms hitherto has been perfectly correct. Whenever the grubs show a disposition to spin, put them into a small bag of paper made by twisting it in the form of a grocer's sugar-paper, and fix these against a wall or upright board with pins. In due course the moth will come out, and, after laying its eggs, die. The eggs are to be preserved all the winter, and then in the following summer they will be hatched, when you have but to repeat the process which you have gone through this season.

WEEKLY CALENDAR.

Day of Month	Day of Week	AUGUST 14—20, 1886.	Average Temperature near London.			Rain in last 50 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.					
			Day.	Night.	Mean.									Days.	m.	h.	m.	h.	m.	h.	Days.	m.	s.
14	Tu	Anacampteros polyphylla.	72.6	50.6	61.6	15	45	af 4	34	af 7	11	af 9	53	af 8	4	4	28	236
15	W	Anacampteros varians.	73.2	49.9	61.6	16	47	4	32	7	16	10	17	9	5	4	17	237
16	Th	Andromeda speciosa.	73.3	51.3	62.3	18	48	4	30	7	19	11	48	9	6	4	5	238
17	F	Anisomeles furcata.	73.1	50.1	61.2	21	50	4	18	7	after.	18	10	7	8	58	239	
18	S	Artemia speciosissimum.	73.3	51.1	62.2	14	51	4	16	7	22	1	46	10	7	8	40	240
19	SUN	12 SUNDAY AFTER TRINITY.	75.0	51.3	62.2	18	58	4	14	7	17	2	24	11	9	8	26	241
20	M	Babiana villosa.	72.5	53.5	61.5	18	55	4	12	7	11	8	morn.	10	8	18	242	

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 73.0°; and its night temperature 51.1°. The greatest heat was 92°, on the 18th, 1849; and the lowest cold 38°, on the 18th, 1864. The greatest fall of rain was 1.12 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

ON THE VARIEGATION AND CROSSING OF PELARGONIUMS.



It is pleasant to see a curious and difficult subject taken up with the earnest and fresh-minded enthusiasm of Mr. Wills. Years of close observation and close reason-

ing, however, combined with scientific accuracy, have yet to be gone through before he or any one else can throw much light upon this mysterious subject.

Until of late, when the taste for variegated plants has provoked experiment, variegation was supposed to be non-transmissible by seed, and this must still be considered the rule, and the contrary the exception. It is probable that most of our variegated Geraniums are sports, but it is certain that some have been raised from seed; to what extent I know not, but I have raised several myself, which were symmetrically marked from the seed leaf to the perfect plant. It is much to be desired for the interests of science that the originators of these variegated Geraniums should come forward and state their origin. Trade secrecy in these matters is in these times happily ignored by our high-caste nurserymen, now a highly educated and intellectual class of men, and I hope this appeal may not remain long unresponded to. Amongst other curious assertions is the following—viz., that a green-leaved sport from a variegated plant will again sport, but into a fresh form of variegation—golden, for instance, instead of silver. This wants confirmation.

With regard to Mr. Wills's seedlings, I do not think foreign pollen had necessarily anything to do with the matter, as the same phenomenon occurs when the accuracy of the experiment has been actual. Moreover, whether the variegated plant be the male or female parent, much the same per-centage of green and of variegated plants will appear. The strength of constitution is always in inverse proportion to the variegation, being greatest in mottled and irregularly marked plants, less in the rarer case of symmetrical or true variegation, and nil in the case of pure albinos, which I have never known to perfect a rough leaf. On examining a large number of seeds of Flower of the Day many years ago, I observed four types of seed—viz., robust green, striped green, colourless, and a modified or brownish green. The green seeds produced green plants; the striped, often seedlings of which one cotyledon was green and the other white; the colourless seeds came white; while the fourth description produced plants variously marked with white, and occasionally true variegations at once. The mottled plants threw true variegations from the part of the stem just above the place where the cotyledons existed, as observed by Mr. Wills. The green ones

remained green, but would probably have sported sooner or later.

The striped form of colour is a very curious subject, and well worthy of observation. The stripe may be traced running up through the stem from its origin, through the flower-stem, thence to the pedicel and bract, and finally into the seed itself, sometimes affecting two or three pedicels in a group, sometimes striping a single pedicel. Symmetrically-marked shoots never appear on a striped branch, in which case they are either green or white entirely, as far as I have observed. In the lower and more ripened part of the stem the two colours seemed to be more fused, and disposed to an equal development. There is also a visible difference in colour between wood which is likely to throw variegation, and such as will develop itself in purely green growths.

In some early experiments of my own I found that the pollen of Golden Chain tinged the seedlings of green-foliaged plants plentifully with different shades and markings of yellow. The per-centage of such seedlings was rather large, and one came perfectly variegated from its birth. When this is the case the cotyledons are striped with the yellow or white colour down the midrib of each. The plant alluded to was a slow grower. I gave it to a friend in the nursery business, and never heard what became of it.

With regard to the pollen question, there is a great difference in plants as to their capability of becoming fertilised by the pollen of other plants in their neighbourhood; some seem absolutely to refuse it, while others can hardly be kept true when this, as in culinary plants, is desirable. The Geranium, certainly, when placed in proximity with other Geraniums, is liable to be fertilised by their pollen, and this, when one would think they could scarcely escape the influence of their own. Of the agency of insects in this matter there can be no possible doubt. On the other hand, I am now working at a genus of plants profusely supplied with pollen, which I grow in large numbers under glass, and in the course of five years have never observed an accidental hybrid. Whether fertilisation is effected to any great amount by floating pollen under glass I do not know, but I may suggest the following nearly crucial experiment:—Wet a pane of clean glass with glycerine, wave it in the supposed pollenised air, or let it remain there for some little time. The presence of pollen grains may then be easily detected under the microscope.

The electrical question is altogether too deep for me, although not a new observer. Such matters call for a peculiar line of investigation by very experienced hands, upon rigidly accurate principles, carried out with previously-acquired and real knowledge of the subject. The contrary leads to burying electrical wires in Wheat fields, and printing great results which occurred in consequence of the feat, without recording the quantity of manure put in at the same time, or noting any one phenomenon of any kind occurring between the seed time and harvest of the experimental crop.

As an old hybridiser, I will venture to suggest to Mr. Wills and other labourers in this field, to work upon but

few subjects each season, and to seize upon every circumstance tending to secure isolation. For instance, the plants to be experimented upon should be brought into flower as early in the season as possible, and only one or two worked upon at a time. There are several great advantages in this. When there is not too much to think about, the operator, as well as the plant, is in a beneficial state of isolation. When the real growing and flowering season of the year comes on at a later period, and multitudes of plants are bursting ungovernably into flower all around us—when no hand however quick, or eye however vigilant, can stamp out the general outburst of foreign pollen influences—when the mind is distracted and confused with the desire to take advantage of the profusion of subjects, without the leisure to attend to them all properly—no very accurate results can be expected. A temporary occupation of the mind elsewhere, or a short absence from home, may vitiate the labour of weeks, and, in fact, often does so.

Small plants of *Geranium* in their first shift from the cutting-pan seed very kindly in a little heat in the spring, and more especially on the first blossoms of the first truss produced. Moreover, in this case the flowers are often antherless, which is a great and real advantage, provided we have the desired pollen at hand.

The hybridist should never be without a hand-magnifying glass, with which he can often at once set his mind at rest with regard to accidental or insect-borne importations of pollen. After all, there are strange and inexplicable occurrences met with occasionally in the matter, and so the internal evidence borne by a truly intermediate seedling is all that, at any rate, the practical man can with any certainty look to.

In the matter of variegated produce from variegated plants my own experience is but small. A Candytuft in my garden produced several generations of variegated plants; they were, however, distorted unhealthy things. I have met with others, but cannot at this moment call them to mind. Mr. Wills's instances were very interesting to me. They confirm the general disposition to lose constitution in proportion to the accession of albinism.

The splendid great scarlet *Geranium*, known by several superb and imperial names, now rarely seen except against the back wall of some old conservatory, is very shy to seed, but I should greatly like to see it made use of as a breeder. I seeded it in the open air late in autumn two years ago. Six plants came up, one rather better than the parent, and one more stocky: these I have kept; the rest were not so good as the old plant. Its pollen seems good, and is plentiful.

In conclusion, I beg Mr. Wills not to consider these remarks as conceived in a spirit of criticism, but as provoking and looking for a system of friendly scientific discussion and mutual enlightenment, which I could wish to see far more cultivated in the pages of yours and other high-class journals.—C.

AMONG THE SCOTTISH BRAES, LOCHS, AND MOUNTAINS.—No. 1.

I SHRINK from talking in a railway carriage, for I'm deaf, and my hearing-horn brings in such a mingling of words and tramroad rattle as almost to cause a brain-concussion. So I sit in a corner well supplied with periodicals; and when weariness of eyes compels I close them, shut myself up, and shut out my companions. Whilst journeying hither I was quite successful in so excluding until Carlisle was reached, and then an elderly man with ruddy cheeks and bright brisk eyes came among us. He would talk, and would joke; and I hated him, until the following testified that he was "as weighty as witty." He nudged me, made me listen—and I omit my interlocutories from the summary—"You've THE COTTAGE GARDENER there. I've just written to them about a bit of land I have, for I should like to know whether it's just as much as it was in Edward the First's time. I have a copy of the oldest deed about it, which says, '*Continet 8 acras in campis Doncastrice.*' We make it out twelve acres. THE COTTAGE GARDENER people say that what an acre was in those days no one has told, but that in the British Museum MSS. it is stated in the fourteenth century, 'A plough can commonly plough one acre per day, and sometimes more.' Well, they used oxen then, and now a pair of those beasts can plough one of our acres; so I suppose my foregoers cribbed somewhat out of the waste. Then the COTTAGE GARDENER's people go on to talk about land measure and forty rods making a furlong; but at our school I found a different measure, for there one rod made

an *aker*! That 'furlong,' what a curious corruption that is! By the '*Statutum de admensuratione terrarum*' it was fixed to be forty *perches* or *perches* of 16½ feet each, and it was called *quarantena* or *Forty-long*; so there's the parentage of our *Fur-long*."

Carlisle, however, must not be passed from without other notices; and first, as most appropriate to these pages and to the credit of the old city, let me record that the fruit and vegetable market, though held, as it should not be, in the open air, is well supplied. I never saw such a series of quart basins full of Raspberries; such large Black Currants, a fruit I would gladly see elevated into bunches more numerously berried; nor six and thirty carts in a row filled with Potatoes, and their contents retailing from scales, with which each was furnished, suspended from an iron bracket fixed to the cart's side.

Then there are the ruins of the Castle—the first English prison of Mary Queen of the Scots. Whether she was more sinning than sinned against is as doubtful as it is now whether she was beautiful or the very reverse, after seeing her many portraits in the National Collection at South Kensington. Even if she was so superlatively bad as some maintain, still she was unconvicted when at Carlisle, and yet she had no other place for exercise there than the wall-engirted space still designated "The Lady's Walk." There were no castle gardens in those days; and she might well say for a more sorrowful reason than that, "Would I were among the Heather!"

However, here lies (I am now in the cathedral aisle), he who, even after having two wives, has left as his testimony, "It is a happy world after all." Yes, beneath this slab rests William Paley, whose "Natural Theology," "Evidences of Christianity," and "Horæ Paulinæ," still stand forth unconquered wrestlers for the truth when the showy unsubstantial shadows of German theology have long since ceased to deceive. He has touched slightly in his published writings, and more, I have heard, in manuscripts still unprinted, upon the plants of the ancient world; but the researches were but shallow in his days, and every year now brings light to us from previously unthought-of sources. Who ever suspected, a few months since, that the bricks of Egypt's pyramids would reveal to us some of the plants of the days of the Pharaohs? Yet true it is that they have made that revelation. Professor Unger has just shown, in a communication to the Vienna Imperial Academy of Sciences, that those bricks contain evidence of the plants existing at the time of their making. He has examined a brick from the Pyramid of Dashour, which was constructed between 8400 and 8300 B.C., consequently at the lowest calculation it is more than 5000 years old. In that brick he found the forms of plants so perfectly preserved that he had no difficulty in identifying them. Besides two sorts of grain, Wheat and Barley, he found the Tef (Eragrostis abyssinica); the Field Pea (Pisum arvense); common Flax (Linum usitatissimum); wild Radish (Raphanus raphanistrum); Corn Chrysanthemum (Chrysanthemum segetum); Wartwort (Euphorbia helioscopia); Nettle-leaved Goosefoot (Chenopodium murale); Bearded Hare's-ear (Bupleurum aristatum); and the common Vetch (Vicia sativa). The presence of chopped straw confirms the account of the brick-making mentioned in the Book of Exodus and Herodotus.

So there are "sermons in bricks" as well as "in stones," and, as certainly, "good in everything;" and not the least of that "good" is to be met with at Carlisle's "County Hotel." No traveller can leave that hostelry without regret, and none the less if he is to be "over the Border," as I shall be when I next write.—G.

VIOLA CORNUTA.

WOULD Mr. Wills say what is to be done with young plants of *Viola cornuta* raised in pots, and now 2 or 3 inches high? They are healthy, but I see no signs of flowering. They were up early in spring, and kept in the greenhouse till the hot weather, when I placed the pots in the open air. Will they bloom this season, and what am I to do with the plants in autumn?—M. K., Bristol.

[You have kept the plants too long in the greenhouse; if you had planted them out three months ago they would have been in beautiful bloom now; lose no time in planting them out. As the plants have stood so long in pots the roots must be carefully disentangled. Turn the plants out 6 or 8 inches apart in good soil, and you will soon have plenty of bloom on them, if you have the best variety. There are three dis-

tinest varieties of *Viola cornuta*; two of them are worthless, being mere weeds in comparison with that which I had the pleasure of bringing into public notice. I find that I have not said a word too much in its praise; last week I saw it in great perfection at the Denbies, near Dorking. I sent my friend Mr. Drewett a few small plants of it last autumn. In the spring he placed them in heat, where they grew very freely, and, to judge from the quantity Mr. Drewett has planted out, it is as easily propagated as a *Lobelia*. Mr. Drewett considers it one of the very best bedding plants at present in cultivation; he tells me it is a great favourite with his employer, and that all who have seen it pronounce it to be a decided acquisition. Here, although we have had constant rains, with very high winds, for the last ten days, the plant looks as bright and beautiful as ever. It had the same appearance during the dry weather which prevailed during the first fortnight of July. "M. K." should take cuttings about the first week in October, and prick them out on a piece of good ground. Having first made the surface of the soil smooth and even, he should spread a thin layer of sand over it; and then the cuttings, which should be from 2½ to 3 inches long, may be pricked in at about 2 inches apart. In doing this care should be taken to make the soil firm about the base of the cutting. After all the cuttings have been put in, give the bed a good watering. This will settle the sand around the cuttings, and hold them firm in the soil. Afterwards they may be left to take their chance, and in spring they will be nice plants ready for planting out in their permanent quarters, where they will soon gladden the eye with innumerable beautiful mauve-coloured flowers. If the position chosen for the cutting-bed is a little sheltered from cold cutting winds, the plants will grow much earlier.—J. WILLS.]

ZONALE AND NOSEGAY PELARGONIUMS.

At the season in which bedding-out plants may be considered at their prime, a few remarks on one of the most decorative and useful—the scarlet or Zonale Pelargonium, may not be out of place, more especially as the question is so frequently asked, Which are the best and most distinct sorts, which most fit for pot culture, and which for bedding-out purposes?

Two very interesting articles on this plant appeared in the *Journal* of July 24th, by Mr. J. Wills and Mr. J. Pearson; one article headed, "Bedding-out Pelargoniums," the other, "Variegated Geraniums." Now, it is evident that both these writers are discussing the same plant but using different names, in the use of which one or the other must be wrong. Beyond all doubt it must be allowed that there is a wide botanical distinction, and this distinction should settle the name. Pelargonium is the proper and only name for the plant in question, the Geranium being entirely distinct in many ways, which I need not dwell upon to explain. If the section of which I am now writing were spoken of as Zonale or Nougay Pelargoniums, as the case may be, no difficulty could arise in understanding what was meant. Many of the readers of the *Journal* will remember the time (not many years since), when it was the careless habit of gardeners and others to call, or rather misname, the *Tropeolum* as *Nasturtium*, there being quite as great a botanical difference between these plants as between the Pelargonium and Geranium. However, time and good taste have corrected this error, and we find the proper name, *Tropeolum*, the more commonly used.

In making the following remarks on the Zonale section of Pelargoniums I shall subdivide them, and speak of them as Zonales with plain or zoned foliage, variegated Zonales, and Nougays: by doing this I think no misunderstanding can arise. In selecting the following varieties, I would by no means wish it to be understood that I condemn all others; there may be many equally good, though I am certain not better.

Among the scarlets with plain or zoned foliage for bedding-out purposes, I can strongly recommend Faust, Punch, Clipper, Achilles, Brilliance, Monsieur G. Natchet, Trentham Scarlet; St. George and Red Dragon, two of the darkest shades of scarlet; Red Riding Hood, and Adonis, the last two conspicuous for the white centre of the flower, with very dark-zoned foliage.

In the shades of lighter scarlets, approaching salmon and rosy tints, I recommend Volcano, Excellent, Roi d'Italie, Provost, Lucius, Persian, and Herald of Spring.

In the rose-coloured section, I recommend Hector and Rebecca.

Of the white-flowering varieties, I would name Purity,

Madame Vaucher, Marie Mézard, and Marie Virgo. There is but little difference among these varieties. Purity and Marie Virgo throw their trusses rather higher above the foliage than the others.

In the shaded white and salmon section, I would select Amelina Griseau, Eugénie Mézard, Auricula, Christabel, and Monsieur Barré as distinct. The varieties in this section are endless and a great similarity prevails. None of them are suited for bedding purposes, but grown as pot plants, especially in the spring, they are most exquisite.

In the bright pink section, which is represented so well by the old favourite Christine, I would notice Beauté de Suresnes, Rose Rendatler, Pink Perfection, Mrs. Wm. Paul, and Madame Barré.

Among the variegated section of the Tricolors, Mrs. Pollock, Sunset, Lucy Grieve, Lady Culham, and Sophia Cusack are, perhaps, the best; but there are many others coming forward which will take a high position.

In the white and cream-edged section, I would choose Italia Unita, Flower of Spring, Queen of Queens, Argus, Alma, Day-break, Brillant Superbe, Mountain of Snow, Silver Chain, and Venus; and in the golden-foliaged section, Beauty (Wills), Beauty of Oulton, Luna, Golden Fleece, Golden Chain, and General Longstreet. It should be remembered that soil much influences the colour of the foliage of this section, and what suits one variety does not another.

And now a word for the Nougay Pelargoniums which prove so useful for bedding purposes, both for the effect of massing colour and profuseness of flower. The varieties of Nougays are endless, but they may be reduced to a few if their chief qualifications be attended to—that is, the compactness and size of the truss of flowers. All varieties producing lax or spreading trusses should be discarded, and such flowers be selected as Stella, Cybister, Lord Palmerston, La Grande, Amy Hogg, Dowager Duchess of Sutherland, Waltham Seedling, Ornement des Massifs, and Black Dwarf. These represent many shades of colour.

The above list comprises sorts which flower freely and are suited for out-of-doors service; excepting the section alluded to, the white and salmon varieties, all of them make first-rate pot plants, and are useful for general purposes. A much longer list could be furnished, but I feel that it would only cause greater difficulty to persons making their own selection.

There are many excellent varieties suitable for pot culture which have been omitted.

The Zonale varieties of the present year have not been noticed, but before the season shall have passed, when they have undergone their ordeal, I purpose adverting to them.

Should any amateur within easy distance of the Royal Horticultural Society's Gardens at Chiswick feel disposed to prove the merits of the above selection, a visit to the trial-beds and the greenhouse containing specimens of Zonales as pot plants, would amply repay the trouble and increase the taste for Zonale Pelargonium cultivation under glass. The easy culture, the brilliancy of the flowers, and the variety of the foliage must gain the approval of all lovers of flowers.—J. D.

COMTE DE ZYANS STRAWBERRY.

PERMIT me to draw the attention of Strawberry growers to the above variety. As it is without doubt one of the most productive sorts ever raised, and as the best planting season is at hand, cultivators will do well to give it a trial, particularly those who grow for sale. About a year ago I planted a piece of ground with equal quantities of Sir Harry, Wonderful, Empress, Eliza (Rivers), and Comte de Zyans, all of which are great bearers, but I shall not be saying too much in praise of Comte de Zyans when I state that it produced twice as heavy a crop as any of the others (all of which, however, did remarkably well, particularly Empress and Wonderful), its noble fruit lying in heaps on each side of the rows. Such a sight I never saw. The fruit is large, of a light, lively red colour, and very fair-flavoured; the plant continues in bearing a long time, and, if kept well supplied with water, the last fruit will be nearly as large as the first—a most desirable property.

The reason I am induced to write this in its favour is from the fact that the variety appears to be so little known, for I have not seen it advertised in any trade catalogue except in that of Mrs. Nicholson, of Eaglescliffe, from whom my plants were obtained. I trust that some of your readers who are not acquainted with it will give it a fair trial, and let us know the

result in the pages of your paper. For market gardeners it is a first-rate sort, and if they will only give it a trial I am confident that they will never have reason to regret so doing.

Does Mr. Radclyffe know anything of it? If not, I shall be most happy to send him some plants, if they would be accepted.—W. LAURENSEN.

LAXTON'S EARLY PROLIFIC PEA.

HAVING procured a sealed packet of Peas under the name of Laxton's, I find three very distinct varieties, and they are numbered in the samples sent, 1 to 3 respectively, and I shall feel greatly obliged if you will inform me through the medium of your valuable Journal, which of the enclosed pods I am to consider Laxton's.

I am sorry to say it is not the first time that I have been victimised, or, to say the least, disappointed in purchasing "the best Pea in cultivation," and I would respectfully advise Pea growers to be shy of such a very specious term. Some three years ago I procured Sutton's Ringleader, Carter's First Crop, Dickson's First and Best, and Carpenter's Express, which I sowed side by side with Sangster's No. 1, and the result was, that I found Sutton's and Carter's alike, with the exception that Carter's had some "strangers" amongst them very like Sangster's, whilst Dickson's First and Best, and Carpenter's Express, were too much like Sangster's to be pronounced varieties.

I often see you refer to Hogg's "Fruit Manual" for information respecting fruit. Now, about three years ago there was a Peach sent out under the name of Stirling Castle, which is not noticed there. Is it worthless, or why is it not mentioned?—AN AMATEUR.

[The curved pods are Laxton's, which appear to have been mixed with Early Frame. Stirling Castle Peach is a good, but not a remarkably fine variety.]

FROM the very flattering account sent out I have been induced to try a quart of Laxton's Pea, and I must confess that I have been disappointed in it, both as to flavour as well as yield. My Peas had an excellent situation, and they had, moreover, plenty of room—viz., 6 feet asunder.—JOHN MARSLAND.

STRAWBERRY LORD CLYDE.

In the last Number of the JOURNAL OF HORTICULTURE, page 99, I see a reply of Mr. W. Dean to my inquiry as to Lord Clyde Strawberry.

I am of the opinion, which I am sure is shared by many, that a father is not always a very impartial judge of his own children, therefore I should have preferred the opinion of other parties than Mr. Dean as to the merits of this Strawberry. In the meantime I firmly adhere to my belief, that it is nothing else than the old Chinese, and I propose to send plants to the Royal Horticultural Society, with a request to have them tried at Chiswick, as I should like to clear up the question thoroughly.

As to Mr. Dean's pretending to know as much about Strawberries as I do, I beg leave to doubt it very much, unless Mr. Dean should have spent half his lifetime amongst Strawberries, and grown all the sorts existing, as I did.—FERDINAND GLOEDE, *Les Sablons, Seine et Marne.*

THE NATIONAL GOOSEBERRY SHOW.

THIS was held at the Sir John Falstaff Inn, Market Place, Manchester, on Saturday, the 4th inst. The Gooseberries exhibited, although lighter than in the last two seasons, were in good condition, and tolerably well coloured. There was a severe competition among the growers from the principal Gooseberry districts for Dr. Hogg's prize, which terminated in favour of Mr. John Torkington, of the George Inn, Wilmslow, Cheshire, who carried off the prize for a fine specimen of Plough Boy, the most beautiful Gooseberry in cultivation; but he was pressed closely by Mr. Thomas Pilkington, of Scaresbrick, Lancashire, with a fine berry of Talfourd.

Of the seedlings there were but few worthy of notice, owing to the severe weather which occurred throughout May having

ruined the rinds, and so much damaged the fruit that but few sound berries are to be met with this season.

PREMIUM PRIZE, £2, OFFERED BY DR. ROBERT HOGG, FOR THE LARGEST BERRY OF ANY COLOUR. dwts. grs

J. Torkington Red Plough Boy 24 17

STEWARDS' FIRST PRIZES, 18s. EACH.

T. Pilkington Red Talfourd 24 4
F. Jameson Yellow Drill 22 17
M. Torkington Green Shiner 21 9
J. Bower White Antagonist 23 6

STEWARDS' SECOND PRIZES.

G. Wilkinson Red Clayton 23 5
W. Ridgway Yellow Leveller 21 23
T. Lanceley Green Stockwell 21 8
B. Bradley White King of Tramps 22 13

STEWARDS' THIRD PRIZES.

J. Downs Red Plough Boy 23 21
M. Ainsworth Yellow Candidate 21 2
J. Henshaw Green Green London 20 15
H. Garnde White Freedom 18 20

RED CLASS.

J. Torkington First London 25 13
M. Torkington Second Plough Boy 23 21
T. Pilkington Third Slaughterman 25 17
T. Lanceley Fourth Beauty 22 8
J. Henshaw Fifth Wonderful 21 21
T. Pilkington Sixth Lord Liverpool 21 12
W. Ridgway Seventh Clayton 21 9
T. Lanceley Eighth Conquering Hero 20 20
G. Wilkinson Ninth Seedling 20 13
G. Wilkinson Tenth Masterpiece 20 13

YELLOW CLASS.

J. Torkington First Ringer 23 10
W. Ridgway Second Leveller 22 14
T. Pilkington Third Wasp 21 15
T. Lanceley Fourth Cramp 21 11
E. Poulson Fifth Garibaldi 20 8
T. Lanceley Sixth Mount Pleasant 20 6
T. Pilkington Seventh Drill 19 15
M. Ainsworth Eighth Hue and Cry 18 21
W. Ridgway Ninth Catherine 18 17
G. Wilkinson Tenth Leader 18 17

GREEN CLASS.

J. Torkington First Shiner 23 15
F. Jameson Second Stockwell 21 11
T. Pilkington Third Green London 20 11
J. Torkington Fourth Surprise 20 5
H. Garnde Fifth London City 19 23
T. Pilkington Sixth Souter Johnny 19 13
T. Lanceley Seventh Plunder 19 1
E. Poulson Eighth Birchin Lane 18 3
M. Ainsworth Ninth Greta Green 17 23
T. Lanceley Tenth Matchless 18 7

WHITE.

J. Torkington First Antagonist 23 12
T. Lanceley Second Snowdrop 20 11
J. Henshaw Third Overseer 20 5
T. Pilkington Fourth Careless 20 4
T. Pilkington Fifth Hero of the Nile 20 4
M. Ainsworth Sixth Queen of the West 18 23
T. Lanceley Seventh Elizabeth 19 20
E. Poulson Eighth Lady Leicester 18 14
E. Poulson Ninth Snowdrift 18 4
M. Ainsworth Tenth Peto 17 19

RED SEEDLINGS.

G. Wilkinson First Unnamed 20 13
E. Poulson Second England 19 23
B. Bradley Third Lord Derby 19 13
H. Lee Fourth Joe 17 13

YELLOW SEEDLINGS.

T. Lanceley First Unnamed 20 19
B. Bradley Second Conservative 17 14
J. Henshaw Third Rough Robin 16 13
E. Poulson Fourth Annie 16 8

GREEN SEEDLINGS.

E. Poulson First Unnamed 17 4
J. Taylor Second John Taylor 16 13
S. Allcock Third Smithfield Lane 15 8
W. Saunders Fourth Unnamed 14 21

WHITE SEEDLINGS.

J. Taylor First Look-after-me 17 6
W. Saunders Second Unnamed 16 22
G. Scorratt Third Jesse 16 20
F. Sears Fourth Miss Sears 13 7

VARIATIONS OF TEMPERATURE IN NEW YORK.

So far this has been a season of more than usually remarkable variations in temperature, the thermometer on the 8th of January in New York, and its vicinity, marking as low as 20° below zero.

As far as can be ascertained, in the absence of any official record, this is the lowest temperature that has occurred for fifty years. As experience has proved that the Peach buds can only stand 10° below zero, all anticipations of a heavy crop this season are at an end. Many cases of individual suffering occurred, amongst others one poor woman was frozen to death in bed.

This extremely low temperature was a severe test of the different systems of heating for greenhouses, &c., and many a gardener had a rough time of it, attending to his fires; for British readers must remember that gardeners here cannot obtain the efficient staff of assistants that they can at home, but in a case of emergency must put the shoulder to the wheel themselves, and not merely be contented with seeing that the thermometers in the early forcing-houses or plant-stoves are at the regulation figure.

After a rather late spring, summer set in in earnest, and for the first three weeks in July the thermometer stood above 90° every day, rising on the 17th and 18th to 104° in the shade, this being the highest figure ever recorded as occurring here. Workmen left their daily toil, business men forsook their daily avocations, hundreds were struck down by the sun, and many were prostrated who were not in the sun at all. Vegetation did not suffer much, except grass lawns, and a mark has been left on them that will not be erased this season.—DAVID FOULIS, *New York*.

HORTICULTURE ON THE CONTINENT.

ONE of our greatest critics, Bayle, was accustomed to declare that the art of successful abridgement was very difficult of attainment. In the face, however, of this formidable axiom, I shall endeavour, in the interest of horticultural progress, and for the sake of such readers as may not habitually read continental reviews, to give a *resumé* of horticultural news according to their latest stage of development abroad. For obvious reasons these notices will not extend beyond certain branches of the subject, but in these there exists an abundance of material.

Very naturally, up to this period, the International Horticultural Exhibition has chiefly occupied the attention of foreign critics and correspondents, who, while they have rendered fair justice to the brilliant success of the show, take the liberty of criticising some of the arrangements. As one of these criticisms which I recently perused evidently contains the ideas of a practical man, and is written in a kindly spirit, it is valuable. After admiring the great tent our critic finds himself bewildered at the first aspect of the whole scene. A profusion of brilliant colours, hardly less showy foliage, cultivation in perfection throughout, and this in the case of plants only known to Parisians in solitary specimens!—But soon a sensation of uniformity in the arrangement is felt. Each object, studiously placed so as to secure its own immediate effect, is not so grouped and massed as to form an artistical whole; no *ensemble*, no effective stand-points, no striking perspectives—everything sacrificed to detail, and decentralised thereby. Small plants are brought near the line of vision of the spectator. Those which are seen to best advantage from below are elevated on coarse unadorned benches. "On the line" are those objects which best endure scrutiny. All this is a mere elementary trace, and resembles a nurseryman's display rather than that of a great exhibition which is to be a model for country shows. Such a plan may be eminently favourable for the individual specimen, but it has no artistical feature, nor beautiful grouping of masses. These, as was said previously, are the remarks of a very intelligent correspondent, and should be received as improving and by no means unfriendly criticism.

From general remarks our foreign observer passes to detail, in which he is too prolific for me to follow him in a mere summary like this. He begins with the Rose. The Rose is a traditional French glory. Nearly every variety in cultivation is of French origin; fortunately we have, says he, this consolation, for our neighbours have indeed given us a lesson. Imag-

ine huge pyramids, literal constellations of enormous and splendid blooms! Though grown under glass, they are far different from the discoloured specimens we often see in Paris. He distinguishes the names of Mr. C. Turner and Mr. W. Paul as the best growers. In Pelargoniums, he says, we envy not our neighbours' success; many charming and popular novelties adorn our houses; it is the perfect culture shown by Mr. Turner which leaves nothing to be desired. This is described at length as a model for French amateurs. "What shall we say of the marvellous Azaleas and plants of unheated houses? The marvels of Amsterdam and Brussels pale before them. This is one of the classical powers of English gardening. We cannot hope to rival them. Our culture is inferior to theirs, so that even plants bought in England degenerate with us." This he ascribes as due in part to the qualities of the water and the soil. *Ce loam bienfaisant* is the secret. Then follows a list of choice plants, and the names of many of our leading nurserymen are given. Mr. Baines's *Alocasia metallica* is especially noted; also the Palms of Madame Legrelle d'Hanis, of Antwerp, Messrs. Lee's magnificent *Cibotium* princeps and superb *Alocasias*, and Messrs. Veitch's *Anthuriums* are remarked as the *ne plus ultra* of splendid culture. They are minutely described, and strongly recommended. *Caladiums* shown by Messrs. Henderson, Veitch, Wattenbach, and Bleu are highly praised. The last is a distinguished French amateur, our critic says. Few Palms, the best shown by the Duke of Northumberland. I must, however, leave these sections to glance at a very popular one just now, and which our friend rather depreciates, the newest variegated and bronze golden bedding Pelargoniums. "It is a mania just now," he says, "amateurs fight for novelties." Pretty, no doubt, but rather "exaggerated," and a "little frivolous." "Except *Mistriss Pollock*, *Sophia Cusak*, and *Lucy Grieve*, the rest are not worth much. The fashion will pass—as it came." This, however, hardly corresponds with the opinions of other foreign nurserymen who were seen making similar wild guesses at the somewhat *outré* names they saw, and well they might. As a rule, Frenchmen take too little pains as to English nomenclature, and the Exhibition favourites will, no doubt, appear in strange guise on the continent. This is hardly fair to the grower, but unavoidable at present.

Tropical fruit trees are described—the palm for flavour being awarded to the Mangosteen; then the evergreen shrubs—so beautiful, shown by Messrs. Veitch, Standish, and Jackman. Then Mr. Salter's magnificent *Funkias*, *Arabis*, &c., are described, the contents of the Orchid tent minutely gone into, and the names of successful English and Belgian competitors given; among the former Messrs. Veitch and Bull, and among the latter Messrs. Verschaffel and Linden are conspicuous. Ample justice is done to this important part of the subject, and the number and beauty of the novelties which were exhibited are considered to form the most striking part of the whole show, in the eyes of foreigners at least. This is what we like to know.

Our friend admires Messrs. Ivery's Ferns, and especially Mr. Turner's Tulips. In England, yellow is not a proscribed colour. Then, Mr. Henderson's plants and his able disposition of them are praised, afterwards Mr. Standish's *Rhododendrons*, Mr. Noble's plants, Mr. Brand's enormous *Eucharis grandiflora*, Messrs. Carter's New Striped Japanese Maize, so superior, it is added, to that grown in France; *Amaranthus hybridus*, shown by Mr. Knight, of Pontchartrain, near Paris; Mr. Turner's splendid lot of *Lilium auratum*; Mr. Veitch's wonderful *Maranta tubispata*; M. Pfersdorff's *Cacti*; Mr. Foljambe's *Alternanthera*; Col. Miles's *Adiantum*; and Messrs. Backhouse's Ferns, of irreproachable culture, are noted. It would be tedious to say more than this.

After this we come to the sections of fruit, &c. "Here," says our critic, "we are surprised not to meet the master of orchard-house cultivation, Mr. Rivers; we have thus lost some superb productions;" but this could hardly be, as orchard-house trees in pots (unless forced) were then far from looking at their best. England, long so superior in forced fruits, has now, it is said, rivals such as Gontier and Lambertye, who will make her look to her laurels. The forced fruits are considered superb, but less in number than was to be expected. Messrs. Lane's Vines in pots are much praised, as also Mr. Turner's specimens of Peaches, Figs, &c. "Not a *Chasselas de Fontainebleau*!" says our friend, in wonder. Then, however, comes the rather surprising assertion, "Our superiority in the training and pruning of trees is known and appreciated in England. The names of Messrs. Jamin & Durand, of Bour-

la-Beine, near Paris, prove this, as taking the two first prizes." It might have also been added that, in this section they were the only exhibitors, as "your own correspondent" ought to know, having been one of the Judges.

As to vegetables, there was the same indifference as in France, and this although the Executive Committee had endeavoured to secure competition by a handsome list of prizes. "We are not alone in deploring this resistance of a class to whom these shows cannot but be beneficial." What says Covent Garden? Rhubarb, however, is cited as shown in the greatest perfection; a Cucumber, modestly called the "Invincible;" and the new Radish, very curious, but we wait to taste it before deciding.

"Du reste," nothing remarkable in the implements and machines. Garden plans very inferior indeed. "Why did not some French competitors come over and give a lesson on the drawing and composition of gardens, and show that, if in England the tradition of the fine old parks seems compromised, it is to be found in France more in honour than ever?"

Thus our critic ends as he began, by praising our great show in every detail, but considers it wanting in that exquisite and artistic grace which Parisians can alone contribute. Of course, we have all much to learn, but we have hardly anything to acquire in some important things, which is more than all can say.

The weather, as with us, has been very unfavourable on the continent. The warm and dry days of the end of June have been succeeded by cold and wet in July. Vegetation has been extremely perturbed. The Oidium, which it was hoped would not re-appear, has become prevalent. Sulphur is still in favour as a remedy. Numerous provincial horticultural exhibitions are announced. At Troyes there will be one from the 3rd to the 10th of September. A musical mass, a banquet (to which ladies will be admitted), a Venetian fête in the public gardens, are a part of the programme. At Limoges another show will take place on the 13th of this month. The Pomological Society of France will hold its eleventh session at Melun, on the 14th of September. Other exhibitions are at Orleans on the 12th of August; on the 15th at Bourg; from the 29th of September to the 8th of October, at Paris.—T. C. BRÉHAUT, *Richmond House, Guernsey.*

ROYAL HORTICULTURAL SOCIETY.

AUGUST 7TH.

FLORAL COMMITTEE.—This meeting was one of the best of the season, although, perhaps, the attendance of the Fellows was not so numerous. The exhibition of plants and flowers was excellent. Mr. C. Turner sent four seedling Nosegay Pelargoniums—viz., Lady Constance Grosvenor, a bright scarlet, which was awarded a first-class certificate; Duchess of Sutherland, a very showy variety, which had been awarded a first-class; International, and Countess of Sefton, good in colour, but deficient in truss. Mr. Tirebuck had fifteen seedling Zonale Pelargoniums; out of them, a Nosegay called Felix, with large pale pink trusses, was awarded a second-class certificate. Messrs. F. & A. Smith, of Dulwich, exhibited thirteen Zonale Nosegay Pelargoniums, many of them of high character, but too much resembling well-known varieties. Sunbeam, a bright orange scarlet, and King of the Nosegays, were considered the best among them. From Messrs. Smith came also a small collection of Balsams, but not equal to those which we have seen exhibited by this firm; likewise *Lomaria fluviatilis*, an old and well-known Fern.

Mr. Parker, Tooting, exhibited some interesting plants. First-class certificates were awarded for *Pleopeltis incurvata*, a handsome Fern from Java; *Nothochlæna cretacea*, a pretty Silver Fern; and *Goodera pubescens intermedia*. A special certificate was awarded Mr. Parker for his collection. Messrs. Veitch received first-class certificates for a curious and rare Orchid—*Acineta* species, *Gymnostachyum* species, *Trichomanes concinnum*, and second-class certificates for *Bolbophyllum reticulatum* and *Ionopsis paniculata*. A special certificate was awarded for the collection, in which were the white *Lapageria*, *Rothmannia* species, *Notylia bicolor*, a very small and minute-flowering Orchid; *Vanda Roxburghii* var., a *Meliostoma*, and a cut collection of *Gladioli*, one box containing *G. brencleyensis*, and the other named varieties.

Mr. James Hedges, gardener to E. Wright, Esq., received a special certificate for cut specimens of *Renanthera Lowii* and *Vanda Batemanii*. Mr. Melville, Dalmeny Park, sent four seedling *Tropæolums*, like many other seedlings which are raised every year; and Mr. John Wille, Huntroyde, nine seedling Zonale Pelargoniums, not sufficiently distinct, also a collection of his hybrid seedling Verbenas, which must be seen planted out before their merits are decided upon. From Mr. Bracher came eight seedling Verbenas of no merit, and from Mr. Sherratt, gardener to James Bateman, Esq., *Coleogyne corrugata*, to

which was awarded a second-class certificate, and Mr. Sherratt also received a special certificate for a fine collection of cut Orchids.

Mr. Bull obtained first-class certificates for *Brownea princeps* (erecta?) and *Brownea grandiceps*, both plants with very handsome foliage, and second-class certificates for *Broussonetia papyrifera*, a beautifully variegated shrub, and *Tradescantia vittata*. Messrs. Jackson, Kingston, were awarded a first-class certificate for *Erica Marnockiana*, a very fine variety. Mr. Gulliford, Bedford Square, exhibited a Cactus, covered with the cochineal insect; and Mr. G. Smith, Hornsey Road, two seedling Zonale Pelargoniums—Chancellor, a bright scarlet, a good flower, but too like many others; and Alexandra, white-variegated Zonale, not better than Mountain of Light or Silver Chain. Messrs. Cutbush, Highgate, had a first-class certificate for *Lilium auratum splendens*, one of the best varieties yet seen in this country; the broad dull red in place of the usual orange bands made the flower, which is of excellent form, very conspicuous.

Mr. Chater, Saffron Walden, exhibited eight seedling Hollyhocks, two of which received first-class certificates—speciosa, a pale buff suffused with crimson; and Frederick Chater, a pale yellow; and a second-class certificate was awarded for Edward Speed, the flower of a difficult colour to describe, a pale purplish grey. Messrs. Henderson, Wellington Road, received a first-class certificate for Pelargonium Christine Nosegay; and a special certificate for their collection of plants. Among them were tricolor Pelargonium Lady Harriet Bliss, *Hedychium thyrsiforme variegatum*; *Caladium pictum*, *Alphonse Karr*, poeile; and *Curcuma flava*. Messrs. Carter sent fine plants of variegated Maize, *Lobelia Attraction*, blue and white, very like *Paxtonii*; also, *Lobelia Beauty of Ravensbourne*, dwarf compact plant, with pale lilac flowers; a second-class certificate was awarded it. Mr. Henderson, Thornton Heath Nursery, sent a long shoot of the Climbing Devonian Rose, with a fine terminal cluster of flowers. A first-class certificate was awarded this beautiful Rose. Mr. Barron, Elvaston, exhibited *Abies Douglasii brevifolia*, which was awarded a first-class certificate; also, *Abies Douglasii variegata*. W. W. Buller, Esq., received a special certificate for a collection of cut Orchids. Mr. Eckford, Colehill, Bucks, sent twelve seedling Verbenas, very good flowers, but not differing from many others. From the Society's gardens, Kensington, came *Xanthosoma violacea*, in flower; and from Chiswick, a collection of plants, comprising, among others, that good old plant *Trachelium cæruleum*, some named *Petunias*, and several very promising seedlings.

FRUIT COMMITTEE.—Mr. Carmichael, gardener to His Royal Highness the Prince of Wales, Sandringham, received a special certificate for a remarkably handsome Enville Pine Apple weighing 7½ lbs., doubtless the forerunner of many other fine productions from the same garden. From Mr. Keynes, Salisbury, came two Grapes, the one a pretty white seedling, and the other the Strawberry Grape, having a strongly-marked Strawberry flavour; from Mr. Mathison, Addington, a seedling Black Grape; and from Mr. Cox, Madresfield Court, Great Malvern, an oval-barred Black Grape, the result of a cross between the Alicante and Muscat of Alexandria. This was stated to possess a fine flavour, but neither to it nor the other seedlings was any award made. Mr. Ingram, Huntingdon Nurseries, exhibited Easter Beurre Pears, much shrivelled; Mr. McIndoe, a seedling Gooseberry called Goldfinder; and Mr. Cooling, Bath, two dishes of Apples, and a useful-looking white Potato. Edgcott Second Early Kidney Potato, a very clean-skinned variety, was shown by Mr. Neale, gardener to R. A. Cartwright, Esq., Edgcott House. This and the other Potatoes were referred to Dr. Hogg for trial when cooked. Mr. Melville, gardener to the Earl of Rosebery, Dalmeny Park, exhibited the Long-podded Radish with large pods 30 inches or more in length. These, like the pods of the common Radish, are said to be very good when pickled.

FORTNIGHTLY MEETING.—J. Bateman, Esq., F.R.S., in the chair. The awards of the Committee having been announced, the Rev. M. J. Berkeley proceeded to remark on the subjects exhibited. The *Æchmea* shown at the last meeting by Mr. Wilson Saunders, and which differed in some respects from *Æ. Mertensii*, had been compared with specimens in the herbarium at Kew, but the only species at all approaching it was *Æ. pyramidalis*, of which it was probably only a variety. In a collection of fruits from the garden of the Viceroy of Egypt, shown in the end of 1864, was the plant (*Cannabis sativa*), from which is made the hashish used in the East as a narcotic, like opium. From this Mr. Berkeley said he took twelve seeds; but all the plants raised from these were eaten off by slugs, with the exception of one which proved to be variegated. From it he had this year succeeded in raising six plants, and as it is perfectly hardy and more dwarf and bushy than the common Hemp, he thought it would prove a handsome plant for shrubbery-borders. *Pleopeltis incurvata* and *Nothochlæna cretacea* next came under notice, and of the latter it was remarked that the fronds were finely powdered with silvery dust. *Rhoplas* were also noticed as being handsome plants for drawing-room decoration. Attention was next directed to a *Rothmannia*, exhibited by Messrs. Veitch; to *Jussiaea ligustrifolia*, a marsh plant nearly related to the Evening Primrose; and to *Brownea princeps* and *grandiceps*. Of the last, Mr. Bateman remarked that it is an extremely handsome plant of the same natural order as the *Jonesia asoca* and *Amberstia nobilis*, having large heads of flowers and long gracefully drooping leaves. The finest specimen of it which he ever

saw was in the garden of Sir Hugh Williams, at Bodelwyddan. The cochineal insect was the next subject referred to, an *Opuntia* bearing that insect having been exhibited by Mr. Gulliford, and some details were given as to the mode of collecting the insects and preparing the valuable dye which they yield. The variegated *Broussonetia papyrifera* was then referred to as a handsome variegated plant, equally hardy with the plain-leaved sort, and the use made by the Japanese of the inner bark of the latter in producing a bibulous paper, was mentioned, as well as the fact of a tough cloth being manufactured from it by the natives of the South Sea Islands. The other plants noticed were *Trachelium cernueum*, *Acena nova-zealandica*, nearly allied to Burnet, and an *Odontoglossum* from Marauita, remarkable as a botanical curiosity. Attention was also directed to a Hollyhock spike, in which several shoots had become united, as sometimes happens with *Asparagus*, and it was remarked that the upper blooms were fair, though they would not pass muster with a florist, whilst of the lower flowers every one had developed florets.

Mr. Bateman said that though there were numerous novelties among the Orchids exhibited, they all laboured under the difficulty which other new Orchids experienced—that of not being in a condition to exhibit their beauties to the best advantage. The first to which he would allude was *Vanda Bensonii*, named after Lieut.-Col. Benson, Deputy Adjutant-General of Rangoon, an enthusiastic collector of plants. As exhibited, it had miserable foliage and only a few flowers; but native specimens showed that it had not only fine foliage, but produced fourteen or fifteen flowers in a spike. There was also a remarkable *Bolbophyllum*, from Borneo, exhibited by Messrs. Veitch, having beautifully netted leaves, and an *Acineta*, from Central America, with large clusters of yellow flowers, and very distinct from any species at present known; also, from his own garden, *Cologynis corrugata*, so called from the wrinkled appearance of its pseudo-bulbs. Among the most remarkable of the old kinds was *Lælia crispata*, in beautiful bloom. This, which was first ranged under the genus *Cattleya*, had kept him waiting twenty-five years, but he had at length been rewarded by its flowering. Some varieties were obstinate in doing so, and others were the reverse, and he could now congratulate the members of the Society on having a free-flowering variety for distribution. From Mr. Bull there came an example of *Peristaria elata*, or the Dove plant, known also in Panama as *El Spirito Santo*, in consequence of the singular resemblance of the column of the flower to a dove. The plant first flowered in England with Mr. Harrison, of Liverpool, in the year in which the Liverpool and Manchester Railway was opened, and very few persons who had a love for plants did not avail themselves of that opportunity of going to Liverpool to see this beautiful plant and the rest of Mr. Harrison's wonderful collection of Orchids. He hardly knew any plant giving a more perfect representation of an animal form than the *Peristaria*, for the resemblance between it and the beautiful silvery wings of a dove might almost be said to be perfect. Of *Oncidium lanceanum* there was also an example, and coming from Surinam it required a high temperature. He remembered having sent to Demerara, now nearly thirty years ago, a collector, who, having come across this plant on a tree bending over the Essequibo river, and knowing that Hinchman, another collector, employed by Messrs. Low, was but a day and a half behind him, stripped the tree of all the plants that he possibly could take and buried the rest, so that the other collector might not secure the same prize as himself. He would leave it to others to say whether or not such a course was right, and though it would admit of some discussion, he would not pretend to defend it; but this he knew, that the proceeding of Colley was very advantageous to him (Mr. Bateman), for he was enabled to make exchanges on the most advantageous terms, his plants being worth ten guineas instead of two. Poor Colley (for that was the collector's name), died two or three years ago, and he might mention that his widow, a very respectable person, still lives at 22, Hereford Street, Lisson Grove, Paddington, though in by no means good circumstances, and, as she is an excellent *cuisinière*, some of those present might be disposed to employ her. Among other Orchids for distribution was a handsome spike of *Phalenopsis grandiflora*, the queen of bridal Orchids, furnished by W. Wentworth Buller, Esq., of Strete Raleigh, who informed him that the plant from which it was cut had not been out of bloom for two years, and in that time had produced no less than thirty-two spikes, as many as five having been in flower at one time. In connection with *Notylia bicolor*, an insignificant-looking Orchid, Mr. Bateman remarked, that Mr. Wilson Saunders was about to publish a work called "The Refuge," in which all small Orchids which could not make their way in the world by their gay flowers, would have justice done to them. With reference to *Allamanda Schottii* Hendersoni, of which Mr. Bull had sent out blooms for distribution, Mr. Bateman cautioned those who might obtain them to be careful, for he knew that if the petals of *Allamanda cathartica* were put into the mouth they caused pain for a considerable time afterwards. Attention was then directed to a cut specimen of *Renanthera Lowii*, between 7 and 8 feet in length, and bearing thirty-two blooms, shown by E. Wright, Esq., of Birmingham. It was remarked that this magnificent Orchid is a native of Borneo, where it was discovered by Mr. Low, jun., and on its first introduction named *Vanda Lowii*. This *Renanthera* was remarkable for the great length of its spikes, and he might mention that, fine as the specimen before the meeting was, he had seen one a year or two ago at Mr. Rucker's, at Wandsworth, which very much surpassed it, for it had no

less than twelve racemes equally long with that exhibited, which by reason of their great length were festooned across the path, producing a most striking effect. A peculiarity which he might mention was, that the two or three flowers nearest the base of the shoot were in this species different from the rest, being thick, fleshy, and of a tawny colour. *Granadillas* were the next subject to which Mr. Bateman alluded, and of these he had brought some (fruit of *Passiflora edulis*), from his own garden, that the visitors might taste—a privilege which he seldom enjoyed himself, so fond of them were his family. The proper way to eat the fruit was like an egg, with or without sugar, according to taste. With reference to *Passiflora macrocarpa splendens*, Mr. Bateman said he had received a letter from Mr. Hullett, who had offered it for sale at a very long price, giving the testimony of the correspondent from whom he had received the seeds as to the enormous size of the fruit, but Mr. Bateman recommended intending buyers to wait till they had seen fruit of 14 or 15 lbs. weight, which, no doubt, would be honoured by the Fruit Committee with a "double first class." After noticing a collection of Gooseberries from the Chiswick Gardens, and a hardy *Rubus*, not in condition, but said to be excellent for game preserves, and to have fruit partaking of the qualities of the Raspberry and the Blackberry, Mr. Bateman passed on to a Grape having a flavour somewhat resembling that of the Strawberry, but partaking of the foxy taste of most of the native American Grapes. He might add that America had been known to the Greenlanders long before the discovery of Columbus, and from the abundance of its wild Vines, it had received from them the name of Vineland or Wineland.

Six new Fellows were elected, and the Loughborough Horticultural Society, Sherborne Floricultural and Horticultural Society, and Tamworth General Horticultural Society were admitted into union.

WEEKLY SHOW, August 11th.—For the best collection of miscellaneous plants exhibited by nurserymen, Messrs. Cutbush, of Highgate, received the first prize. In the class for the best collection of vegetables, the first prize was awarded to a very meritorious exhibition, consisting of vegetables and herbs, from Mr. Hill, Angel Row, Highgate; the second to Mr. Flester, gardener to Mrs. Rush, Elsenham Hall; and the third to Mr. Whiting, of the Deepdene. In the Miscellaneous Class Messrs. Cutbush received an extra prize for a collection of twelve plants; and Mr. Tonkin, gardener to S. T. Keke-wich, Esq., Peamore, near Exeter, for an excellent specimen of Smooth-leaved Cayenne Pine.

GARDENING NOTES.

THE importance of gathering all ripe fruit before the morning sun has reached it cannot be too widely known. The Melon, especially, is scarcely fit to eat if gathered warm, and the flavour of Figs and wall fruit generally is affected to a marked degree by the condition of the fruit at the time of its removal from the tree. I believe vegetables also come under the rule.

In passing lately through Paris, I had again the opportunity of noticing the diligent care with which the flower-beds and grass plats are tended in the public gardens, and in the Bois. The bedding plants are surrounded with a thick mulching of rotten manure, which is well watered twice or thrice a-day. The grass parterres are also well watered for hours together during sunshine, by hose perforated with innumerable small holes, which spread a gentle dew in all directions. These hose are set on "travellers," so that they can be easily moved from place to place. They water a tract of 100 yards in length by about 10 in breadth at once, and without any trouble beyond the first placing in position.

Large trees are transplanted in Paris, and having been surrounded by haybands, have a funnel placed at the top of the stem to receive water, so as to keep the haybands constantly wet to prevent the tree from languishing.

In the gardens of the Tuileries, and in those round the Louvre, a pretty effect is given to the flower-beds by an earth border between the grass-bed and the flowers. This is formed of finely-sifted earth, and being slightly damped it keeps its place, and, moreover, prevents washings round the grass borders.

In planting, weeding, &c., over soft ground, it strikes me that it would be well for the workman to wear a kind of snow shoe, to save the ground from being trampled hard. Such shoes would be easily attached to the foot, and any handy man could readily make them. They would save much time and trouble in lieu of shifting boards, &c., and, being pointed in front, might be easily slipped beneath the leaves of growing plants without doing injury.

A pretty effect may be produced on lawns, &c., if, at the time of laying the turf, planks be first put down a few inches below the surface, arranged in various patterns (stars, letters, crests,

&c.), and the turf then laid above them. When the snow has fallen in winter, and begins to melt, it will be found to remain for a long time over these places, and exhibit the various devices which have been executed there, without any ill-effect being produced at other times. To those who are not in the secret it will be a source of delighted wonder. Cinders or other non-conducting substances may be used instead of planks.—D.

MR. WILLIAM PAUL'S NURSERIES, WALTHAM CROSS.

THESE nurseries are at all seasons well worthy of a visit, and particularly just now; for apart from the high order and keeping which they everywhere manifest, they present several features of special interest. Foremost among these are the bedding Pelargoniums; then there are Roses by thousands; extensive collections of hardy ornamental shrubs, both evergreen and deciduous, now in full beauty; and for those who contemplate stocking their fruit gardens, Apples, Pears, Peaches, Nectarines, Plums, and Cherries of every useful size and form.

To the traveller by rail the most convenient mode of access is from the platform of Waltham station (Great Eastern Railway), whence a walk leads directly into the nurseries, and is continued for a quarter of a mile parallel to the railway. One side of this walk is planted with trees selected for the beauty of their foliage, and the other chiefly with Hollyhocks, now presenting noble spikes of bloom. Pursuing this walk for a short distance, and then turning to the left, we enter a broad grass walk a third of a mile in length, leading to the offices and glass houses. This walk is kept closely cut with a mowing machine, and having beds of choice evergreen shrubs on each side, it forms a most agreeable promenade in summer, whilst for traffic in winter and when the grass is damp there are parallel gravel walks. By this arrangement, which is worthy of imitation elsewhere, comfort in walking is secured in all weathers. For a considerable distance on each side of this broad grass walk the beds are extremely gay with the finest of the bedding Pelargoniums, but before referring further to these we will take a glance through the houses.

The first two houses contained Tea Roses, which, though no longer exhibiting that profusion of bloom which they did earlier in the season, were still very interesting and pretty. *Maréchal Niel*, which has this year established its reputation as one of the finest of all the Tea Roses, figuring in most of the winning stands, and exciting universal admiration, was still in great beauty. *Souvenir d'un Ami*, *Gloire de Dijon*, *Madame Falcot*, beautiful in the bud state, and *Nina* were also in very good bloom; as well as *Noisettes Celine Forestier*, *Desprez à fleur jaune*, a very hardy and vigorous kind, and *Cloth of Gold*. The next house contained a good stock of Vines for fruiting in pots, consisting of *Black Hamburg*, *Muscats of Alexandria*, *Royal Muscadine*, and *Foster's White Seedling*, all with strong wood. Four other houses were occupied with a large stock of Vines, chiefly for planting out, consisting of *Muscats*, *Black Hamburg*, *Buckland Sweet-water*, *Foster's White Seedling*, *Royal Vineyard*, *Chasselas de Falloux*, *Barbarossa*, *Lady Downe's*, *Trentham Black*, *West's St. Peter's*, *Tokay*, and several other varieties in excellent condition. In No. 4 house there was a number of standard Pelargoniums, among which were *Mrs. Pollock*, *Sunset*, *Waltham Pet*, *Madame Vaucher*, and *Dr. Lindley*, a large-flowered light scarlet with a white eye. There was also a plant of *Pillar of Beauty*, a strong-growing variety well adapted for the pillars and back walls of conservatories, and a profuse and continuous bloomer. Here, too, there were several of the new *Nosegay* varieties, as *Blue Bell*, deep rosy lilac with a slight bluish tinge, and a large white blotch in the upper petals; and *Mrs. William Paul*, now pretty well known as a fine rosy pink variety. No. 5 contained a number of the new Roses in eight-inch pots, and large specimen Teas for show purposes; and the next house Pelargoniums again. Among these were *Bride*, a pretty variety for pot culture, with white flowers, having a red circle at the base of the petals; a fine specimen plant of *Wood Nymph*, about 2½ feet through, and bearing about four score trusses; and *Waltham Gem*, a promising golden-leaved variety of compact habit. The *Camellia*-house had been cleared of its regular inmates, which had been placed out of doors under tiffany, and was occupied with *Primulas* for seed, of which great care is taken in preserving a fine strain, and a lot of the long-podded *Radish*.

In other houses and pits were Roses of the Tea, *Noisette*,

Bourbon, and Hybrid Perpetual classes to the number of several thousands, and among other varieties was an extra strong stock of *Maréchal Niel*, *Madame Bravy*, *Alba roses*, now in great demand; *Madame Goubault*, *Madame Falcot*, and *Mr. Paul's* new Hybrid Perpetuals *Black Prince*, *Dr. Lindley*, and *Lady Suffield*. Various span-roofed pits were filled with new Japanese shrubs, such as the *Raphiolepis ovata*, which this spring has shown to be beautiful not only in its leaf but in its flower, and, withal, delightfully fragrant; *Skimmia japonica*; variegated *Euonymus*, and two beautifully variegated *Privets*—*viz.*, *Ligustrum ovalifolium aureo-maculatum* and *L. sinense variegatum*, the latter exhibiting a great breadth of yellow markings, and, doubtless, hardy enough for good situations. The new *Aucubas*, too, were, of course, represented in great number as well as variety, and there were some seedlings not yet brought before the public; one was particularly worthy of notice, the foliage being broadly edged with white, and if this character remain permanent, as there seems to be no reason to doubt, it will prove a striking novelty. Another seedling was also noticeable as having leaves scarcely distinguishable from those of a *Laurel*. *Medio-picta*, *latimaculata*, and other kinds shown this year and last at the various metropolitan exhibitions, were being propagated in numbers, as from their bold variegation the demand for them will doubtless be great. Before quitting the part of the nursery where the houses are situated, we just glanced into some north pits, where, among other subjects, is a collection of *Ivies*. Of these, *marmorata nana* was noticeable as a beautiful, small-leaved, marbled variety; *rhombes*, as having elegant foliage with a regular silver margin; and *japonica* as a small-leaved, bright-looking, white-variegated sort. *Algeriensis variegata*, and *maculata*, are also handsome varieties.

We now come to the bedding Pelargoniums, which, being massed on each side of the grass walk, and most of the varieties being represented in considerable numbers, have a brilliant effect. The majority of them are of the *Nosegay* race, and either of *Mr. Beaton's* raising or seedlings which have sprung from his stock, of which it will be remembered *Mr. W. Paul* purchased the whole. First comes a bed of *Rebecca*, which must rank as one of the finest bedding varieties which we possess. Its flowers are broad-petalled, of a peculiarly soft rosy carmine, with some scarlet in the upper petals. The habit is very dwarf and compact, the leaves distinctly zoned, and the trusses stiff, bearing the flowers well above the foliage, but not too high. In addition to these good properties it has that of being very free-flowering; and, as a further proof of its merits, it may be remarked that it has been awarded a first-class certificate by the Floral Committee of the Royal Horticultural Society. *St. George* is another fine variety with plain leaves and scarlet flowers, with a chestnut shade, in large trusses; and *Waltham Seedling*, a very free-flowering dark crimson, with slight horseshoe leaves. *Phoenix*, intense scarlet, has a larger truss than the well-known *Punch*, and appears to be a very continuous bloomer; whilst *Salmon Nosegay*, also plain-leaved, is likewise remarkably free, and may be regarded as a valuable addition to the salmon-coloured varieties. In *Sir Joseph Paxton* we have a totally distinct shade of colour, more nearly approaching an orange than we have hitherto met with, and a great improvement on *Orange Nosegay*, the truss and flowers being twice the size; and in *Naiad* there is another new colour—a beautiful rosy purple with a play of scarlet in the upper petals. The flowers, indeed, are rather small, but it is a charming variety. *Cardinal*, though perhaps better for pot culture than bedding, is remarkable for its fine shape and habit, and deep scarlet colour; and *Prince of Orange*, which, like the preceding, has plain foliage, is a very free-flowering orange scarlet. *Nimrod* is another fine orange scarlet, with finely formed petals and very large trusses. The leaves are marked with a dark horseshoe, and the habit is excellent, the trusses being thrown just above the foliage. *Monte Rosa* is a pretty rosy pink, with a tinge of magenta in the lower petals, and of scarlet in the upper ones; *Lord Chancellor*, salmon pink, with very dark zoned foliage, and forming a compact bed in profuse bloom, and *Alexandra*, a sport of *Magenta Queen*, were also very noticeable. The last is of a beautiful magenta crimson, very free-flowering and effective.

Besides the above, all of which have been already before the public, there were several seedlings which will not come out until next spring. One of these, called *Dr. Hogg*, is broader in the petals than *Amy Hogg*, of a deeper rose, and has more scarlet in the top petals, whilst the trusses are equally numerous and fine. *Beauty of Waltham*, carmine and scarlet, is a

very free bloomer; and *Crimson Queen*, though not large in the truss, is of a much deeper colour than *Stella* and *Cybilster*. *Scarlet Dwarf*, as its name implies, is of dwarf compact habit, and has soft rosy carmine flowers with a tinge of magenta in the lower petals, and of scarlet in the upper ones. *Enchantress*, magenta crimson tinged with scarlet in the upper petals, is a bright-looking variety; and *Village Maid*, an effective deep pink flower, conspicuously blotched with white at the base of the two upper petals. The plant is dwarf and of excellent habit, and has darkly zonate foliage. There were several unnamed seedlings of great promise, especially one or two very dark scarlets, another with pink flowers, and one with very broad petals approaching a true orange colour: but of these and many more we shall doubtless hear in due time.

The Waltham Cross Nurseries are so far-famed for their Roses, that it is scarcely necessary to remark that these constitute another leading feature, although at the time of our visit hot weather, succeeded by heavy rain, had, to some extent, marred their beauty and considerably diminished the number of blooms on the plants. Still there were acres of Roses, of varieties so numerous as to be perfectly bewildering. Through Mr. William Paul's kindness, however, we are enabled to give the following selection of varieties that will not disappoint the grower:—

Hybrid Perpetuals.—*Alpaide de Rotalier*, Alphonse Damaizin, Auguste Rivière, Baron Adolphe de Rothschild, Beauty of Waltham, Centifolia Rosea, Charles Lefebvre, Charles Margottin, Comtesse de Chabillant, Dr. Andry, Duc de Rohan, Duchesse de Caylus, Elizabeth Vigneron, François Lacharme, General d'Hautpoul, Glory of Waltham, Jean Rosenkrantz, John Hopper, John Keynes, Lælia, Lord Herbert, Lord Macaulay, Madame Alfred de Rougemont, Madame Emile Boyau, Madame Rousset, Madame Victor Verdier, Marguerite de St. Amand, Maurice Bernardin, Olivier Delhomme, Pierre Notting, Prince Eugène Beauharnais, Princess of Wales, Semiramis, Sénateur Vaisse, Triomphe de la Terre des Roses, Triomphe des Français, Victor Verdier, William Bull.

Bourbon.—*Souvenir de Malmaison*.

Noisette.—*Aimée Vibert*, Céline Forestier, Lamarque, Sol-faire.

Tea.—*Alba Rosea*, Belle de Bordeaux, Gloire de Dijon, Homer, Madame Falcot, Madame Villermoz, Maréchal Niel, Narcisse, Rubens, Souvenir d'un Ami.

Of new Roses, Mr. Paul recommends the following:—*Alfred Colomb*, *Aurore Boréale*, *Black Prince*, Charles Rouillard, Comte Alphonse de Serenye, Dr. Lindley, Fanny Petzold, Fisher Holmes, Gloire de Duohier, Hippolyte Flandrin, Jean Cherpin, Jean Lambert, John Grier, Joséphine Beauharnais, Jules César, Lady Suffield, Madame Fillion, Mlle. Marguerite Dombrain, Marcella, Prince de Portia, and William Rollison.

Of Hollyhocks there is also a fine collection, comprising every shade from white to black running through yellow fawn, puce, and crimson. Several of the kinds, however, had not come fully into bloom. The finest of those which had done so were *Shrubland Gem*, yellow; *Red Gauntlet*, fiery red, a very close spike; *In Memoriam*, claret; *Argentæa*, silvery white; *Black Prince*; *Beauty of Walden*, rosy pink; *Beauty of Waltham*, bluish, very fine; *George Keith*, red, very fine; *Electra*, sulphur yellow; *Mrs. Chater*, rose; and *Lady in White*, white, very fine.

We now come to the shrubs, of which the collection is very extensive and interesting. Of Hollies there were no less than one hundred sorts, among which that called *Walthamensis*, with deep golden variegation, is free-growing and very effective. Indeed hardy ornamental trees with golden, silver, and purple leaves, constitute a prominent feature; these colours freely introduced amidst the preponderating masses of green are very effective, and lead one to ask how it is that our landscape gardeners do not use them more frequently in modern planting. To see them as they may be seen here would at once set at rest any doubt that might be entertained as to their effect. If they could but be shown at our exhibitions as the greenhouse and stove plants of this character have so long been, they would, no doubt, become popular, and soon enter largely into the composition of English tree-escapery. Foremost among the gold-leaved kinds were the variegated Spanish Chestnut (*Castanea vesca variegata*), the leaves as large as the ordinary Spanish Chestnut, and broadly margined with bright gold. There were no less than three variegated varieties of Dogwood (*Cornus*), all beautiful; a new variegated Beech (*Fagus*), of more rapid and elegant growth than the old variety, the gold margin of the leaf broader and

brighter; an Ash (*Fraxinus aucubefolia*), the large and graceful leaves well blotched with gold; several varieties of Privet, the evergreen sorts broadly edged with gold, and very handsome; variegated Turkey Oak (*Quercus cerris variegata*), the variegated Weigelas and Weeping Mountain Elm. To single out these as a few of the most striking may suffice to create an interest in these hitherto neglected plants, for which we augur in no distant future a full recognition and use. Among the silver-leaved trees the Acer negundo variegatum is the most conspicuous; the Shepherdia, Hippophaë, Populus argentea, and Tilia argentea are also distinct, and of great merit. Among purple-leaved trees the Purple Beech (of which there is a very large-leaved and dark-coloured variety here), the purple Nut, and purple Berberis were the most striking; but there was a great variety of trees of this colour, as well as of the gold and silver hues. Passing from colour to form, the Catalpa, the Paulownia, and the Magnolias appear to be still pre-eminent for the size of the entire leaf; and for divided leaves, the Aralia spinosa, Alnus imperialis asplenifolia, Juglans laciniata, Kalmia reuteria paniculata, Rhus typhina, and Acer platanoides laciniatum take foremost rank. There were also varieties of Oak, Acacia, and Elm as pyramidal in form as the Lombardy Poplar. Of trees which produce so fine an effect in the landscape in autumn by the changes of the colour in the leaves it is too soon to speak; they were, however, in abundance—scarlet Oaks, Liquidambars, Ginkgo trees, and others, as yet in their summer dress of bright green, but which we know will on the arrival of autumn stand forth arrayed in scarlet and gold. Beautiful trees! we would have you abound in our woods and plantations, and believe you will do so at no distant date.

The stock of fruit trees is another feature deserving special attention; and to give an idea of how extensive it is, we may mention that it comprises five thousand standard Apple trees, and between two and three thousand Pear trees, not to speak of large quarters of fine healthy pyramids three and four years old, and of trees for espaliers, walls, and bush culture. There are, besides, Peaches, Plums, and Cherries for orchard-house planting, and ready trained of various sizes for walls, and, it is worthy of remark, exhibiting a healthy vigour without over-luxuriance.

A NOTE ON TINGRITH GARDENS, NEAR WOBURN.

In a late volume I described at some length this beautiful residence of the Misses Trevor, whose fine taste, love of the beautiful, and kindness of heart are seen in everything connected with their establishment, and in the arrangements of the pretty cottages and well-kept gardens in the village of Tingrith. I never meet there my old friend Mr. Manning without one or other of us reverting to a forenoon many years ago, when, after tramping from London to Woburn, seeing all about the gardens, and staying over-night in the neighbourhood, I walked across to Southall (Mr. S. Whitebread's), the next day, and took Tingrith and Flitwick on my way, just when the late Mr. Brooks was in the height of his enthusiasm about his interesting arboretum; for he it is known to all and sundry that young men in these far-off times had limbs, and could use them, and made no great matter of twenty or forty miles or more at a stretch. Well, the simple fact that fixed that forenoon so firmly on my memory was the somewhat bold invitation from our late, then burly, friend, the gardener at Tingrith, Mr. Phillips, to go round all the place, and if I found a weed above 1 inch in height he would give me half-a-crown for it; and I soon saw little chance of making half-crowns from such an investigation. On visiting Tingrith on my way to Woburn Show Mr. Manning playfully told me I must not look for the half-crowns; but if I had I fear I should not have obtained enough to have paid my travelling expenses.

The Grapes, Peaches, and plants in the houses were, if possible, better than usual, the out-door crops good, and flower-borders, walks, &c., without a vestige of a weed, or a mark to tell that there had been storms of wind, hail, and rain. The fine lawn, however, stretching from the windows of the living-rooms (which open into the beautiful conservatory), and backed by its masses of Rhododendrons, when I first saw it on the memorable forenoon was being rolled early to scatter the dew, so that it would sooner be fit for ladies walking over it with thin-soled shoes; and that lawn, merely as an object to look at, seemed to me the other day to be the most interesting feature about the place. So well cut, so well rolled, so springy and elastic, like a thick Turkey carpet, so green from

the recent showery, so free from Plantains and other weeds was it, that I could not help wishing that many who are ambitious to have large lawns round their residences, but who either cannot or will not keep them in first-rate order, could see this little gem of a grass carpet, to be convinced that half an acre so nicely kept will be more satisfactory than half a dozen or a score of acres which can only be kept in the roughest possible way. Something would be done for gardening, and a great deal for the comfort of gardeners, were proprietors sufficiently aware of the trouble, labour, and expense of keeping a large lawn as it ought to be—labour, which often interferes with other matters being sufficiently attended to.

Connected with this small flower-garden lawn there were three changes, and I think improvements, so far as I recollect since my last visit. First, a piece of rockwork and fernery, that bristled out from the evergreen shrubbery, had been removed and transferred to a miniature glen, where, amid the spray of a fountain, and just enough and not too much shade from embowering trees, the rapid growth of some fine specimen Ferns, and the general health and luxuriance, showed that the plants have there found a suitable home.

Second, with the exception of two round beds near the mansion, about 10 feet in diameter, and nicely filled, thus—centre of scarlet Verbena, broad band of Cerastium, and broad band outside of blue Lobelia—the flower-beds are all small, chiefly confined to groups nearer the sides than the middle of the lawn, the beds crammed with plants, and showing a dense mass of bloom; and though, perhaps, scarcely exceeding 2 or 2½ feet across, I would not have wished them larger or higher above the lawn; so much of ease, room, light and shade, and contrast and blending of colour, were thus secured, and yet from the front of the house, and still more from the windows I presume, each bed could be seen distinctly. The lawn furnished a fine example of what may be accomplished with comparatively few flowers when these are grouped so as to secure alike individuality of interest and breadth, instead of contractedness of view. Calceolarias have been almost entirely excluded, and their place supplied with yellow-leaved Geraniums; the former having proved rather uncertain for several years, and no satisfactory reason can be given further than they have become tired of the place; but I can recollect when they used to thrive admirably.

Third, the most striking feature, however, was the long waved ribbon-border which occupied the site of the old rock-work, &c., in front of the shrubbery, and which with that shrubbery formed a grand side background to the lawn. The beds referred to, however pretty, were lost in the dazzling splendour of this nice border. It was thus planted:—Two rows of strong plants of Stella Geranium next the evergreen shrubbery, one row of strong plants of the white-leaved Centaurea, two rows thickly planted of Mrs. Pollock Geranium, and two rows of Lobelia speciosa next the grass verge that separated the border from the winding walk. Perhaps a string of Cerastium next the grass might have improved the appearance, but as it was it was very dazzling, and owed, no doubt, a good portion of its effect to the rich green background of the shrubs, the size and vigour of the individual plants, and the unbroken lines, as there did not appear to be a single vacancy in the rows.—R. FISH.

PELARGONIUM ST. FIACRE.

As a bedding plant, of the whole of the Zonale Pelargoniums, this is, in my opinion, the most useful. It is not, however, till this season that I have grown it as a bedder. Its compact habit, and the profusion of its beautiful salmon-coloured flowers, are great recommendations, and it is of so hardy a character as to be uninjured by winds or rain—a quality much wanted in many other varieties. I wish I could see after a heavy rain my beds of Madame Vaucher, François Desbois, Christine, and many others, in the same perfect condition as St. Fiacre. I think that this variety must ere long find its way into every modern flower garden. Too much cannot be said in its favour.—CHARLES EDWARDS, Bristol.

TULIPA SYLVESTRIS.—I beg to thank "A YORKSHIRE INCUMBENT" for informing us (page 93), that Tulipa sylvestris is still to be found in the meadows between Hexthorpe and Sprotborough. Two years since, I was informed that in making one of the new lines of railway a quantity of ballast was laid on the

spot where Tulipa sylvestris grew, and by so doing it was completely destroyed. Had I known that it was still to be found there I should have visited the spot during the last flowering season. "A SURGEON'S WIFE" appears to have been misled by the information contained in Baines's "Flora of Yorkshire;" it reads thus—"In a field between Hexthorpe and Sprotborough broats, on the banks of the river Don; covering a considerable space, but flowering only sparingly." In Miall and Carrington's "Flora of the West Riding," another Yorkshire station for this interesting flower is given on the authority of the Rev. G. Pinder; but this is open to doubt, as it is not now to be found there, and it is not easily eradicated, as the bulbs run so very far into the ground.—RUSTIC ROBIN.

GRASSES FOR LAWNS.

(Continued from page 106).

FESTUCA OVINA (Sheep's Fescue Grass).—This Grass, represented beneath, forms a dense carpet of dark glaucous green, and is much in request, and highly prized for lawns and bowling-greens. It constitutes the principal vegetation on some hills,



especially those which are dry and steep. Though dwarf it roots deeply, and is, therefore, remarkable for remaining green during the hot summer months and the most severe winters.

FESTUCA OVINA TENUIFOLIA (Fine-leaved Fescue Grass), is of a more slender growth than the preceding, which it much resembles, and is possessed of all its excellent properties. It is to be preferred to it for lawns, where it forms a finer turf, especially on dry gravelly soils. It is admirably adapted for lawns, bowling-greens, and parks, as it is always green, summer and winter.—G. ABBEY.

(To be continued.)

VARIEGATED MAIZE.

I OBSERVED in your Journal a few weeks ago a complaint that the new ornamental-foliaged plant, the variegated Maize, produced from seed plants devoid of any variegation. My own experience does not accord with this. Out of a packet of seed

which I purchased from Messrs. Carter & Co., of Holborn, I had eight plants, and all of them have been beautifully variegated. They grew rapidly, and soon made handsome plants. Few plants could exceed them in beauty and gracefulness when they were 2 feet high; but since that time I have been much disappointed with them. The lower leaves turn yellow and brown, grow ragged, and give to the plant a shabby appearance. I have one plant with a fine head of flower upon it. Nothing can exceed the beauty of its upper part. Its leaves are long, and of good breadth; they are beautifully variegated, and hang gracefully, but the four lower leaves are dead and yellow, the tips of four more are dead and ragged, and the effect of the plant is spoilt.

My object in writing is to elicit information, whether other growers of this promising addition to our easily-grown variegated plants have found the same defect in it.—A YORKSHIRE CLERGYMAN.

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

KLEINIA FULGENS (Brilliant-flowered Kleinia).—*Nat. ord.*, Compositae. *Linn.*, *Syngenesia equalis*. Native of Port Natal. A succulent plant. Flowers scarlet.—(*Bot. Mag.*, t. 5590.)

FREMONTIA CALIFORNICA (California Fremontia).—*Nat. ord.*, Malvaceae. *Linn.*, Pentandria Monogynia. A hardy Californian shrub, introduced by Messrs. Veitch, "undoubtedly the choicest early-flowering shrub introduced of late years." Blooms in June; flowers yellow.—(*Ibid.*, t. 5591.)

FERNANDESIA ROBUSTA (Stout Fernandesie).—*Nat. ord.*, Orchidaceae. *Linn.*, Gynandria Monogynia. Native of Guatemala. Flowers yellow, lip spotted and barred with crimson.—(*Ibid.*, t. 5592.)

SEMPERIVIVUM PAIVA (Baron Paiva's Houseleek).—*Nat. ord.*, Crassulaceae. *Linn.*, Dodecandria Dodecagynia. Native of Gomera, one of the Canary Islands. Flowers green.—(*Ibid.*, t. 5593.)

SANCHEZIA NOBILIS (Brilliant-flowered Sanchezia).—*Nat. ord.*, Acanthaceae. *Linn.*, Diandria Monogynia. Introduced from Ecuador by Messrs. Veitch. A most beautiful plant; bracts bright crimson, and corollas yellow.—(*Ibid.*, t. 5594.)

SACCOLABIUM AMPULLACEUM (Bottle-lipped Saccolabium).—*Nat. ord.*, Orchidaceae. *Linn.*, Gynandria Monogynia. Native of Sylhet, Sikkim, and other parts of India. Flowers rosy lilac.—(*Ibid.*, t. 5595.)

PELAGONIUMS.—*Lord Lyon*, very large, upper petals bright rosy crimson with a dark blotch; lower petals rosy pink, slightly veined; throat pure white. *Favourite*, upper petals crimson maroon, with a narrow fiery crimson edge; lower petals deep rosy crimson with a dark spot towards the base; white throat. Both were raised by Mr. Hoyle, and in the hands of Mr. Turner of Slough.—(*Floral Mag.*, pl. 301.)

ROSE.—*Miss Margaret Dombain*, a seedling from La Reine, with large, globular, bright rosy pink flowers, very full.—(*Ibid.*, pl. 302.)

AZALEAS.—*Charmer*, flowers large, and of good form and substance, deep amaranth, spotted in the upper petals with a darker shade. *Vivid*, fine form, brilliant magenta.

TACSONIA VAN-VOLKEMII.—"This charming creeper is a native of New Grenada, where it is cultivated in gardens under the name of Courouba. It found its way into Europe a few years since through M. Van Volkem, a Belgian traveller, after whom it has been named by M. Funeck; but it has remained comparatively little known in this country till the beginning of the present year." Mr. R. T. Pince, of Exeter, who first invited attention to it, thus describes his method of treatment:—

"*Tacsonia Van-Volkemii* is undoubtedly one of the finest conservatory climbers ever introduced, second only to the justly and universally admired *Lapageria rosea*. The healthiness, vigour, and rapidity of its growth combine to make it highly desirable for producing immediate effect in conservatory decoration. The flowers, which are of a rich rosy crimson colour (fully 5 inches in diameter), are freely produced from the axil of each leaf, and are gracefully suspended on long slender footstalks a foot in length, so peculiarly slender and thread-like that the flowers hang, as it were, clear and detached from the foliage, and have the appearance of brilliantly-coloured parachutes suspended in the air. Our plant was put into our show-house (the temperature of which is only that of an average conservatory, air being freely admitted, and the thermometer frequently falling as low as 38° to 40° in winter), in the middle of April, 1865, and by the end of January it had

covered the ornamental rafter which spans the house, had been clothed with flowers all through the summer, and was still adorned with them. The foliage is also remarkably good, and free from that coarseness which detracts much from other *Tacsonias*.

"Our plant is growing in a mixture of rough peat, loam, and coarse sand, with abundance of drainage, and plenty of pieces of broken brickbats, crocks, sandstone, and old lime rubble, mixed in with the soil. Occasional syringing and copious supplies of water to the roots during summer and autumn promote luxuriant growth. It may be requisite now and then to cut back vigorous shoots which have flowered, in order to bring up fresh flowering-stems. From the pendent position of the flowers, it is obvious that this beautiful climber can be seen to better advantage trained to a rafter or the roof of the conservatory, than if put against a wall. I have alluded to its comparative hardiness, in support of which, and in addition to the general lowness of the temperature of our show-house, I may say, in conclusion, that we had a plant of it growing luxuriantly on an eastern wall out of doors, during the summer and autumn of 1865."—(*Florist and Pomologist*, v., 161.)

WORK FOR THE WEEK.

KITCHEN GARDEN.

PAY due attention to thinning out and surface-stirring among all advancing crops; gather and store seeds of such choice vegetables as it may be considered advisable to preserve; but anything very extensive in this way ought never to be attempted in gardens exclusively devoted to the purpose of cultivating vegetables for families having any pretence to taste, as in most cases disappointment and inferior qualities will be the result. Any one at all conversant with the nature of kitchen-garden produce is well aware how much the qualities of vegetables become deteriorated when grown, seeded, and reproduced upon the same ground year after year; prudence and economy would, therefore, suggest that seed-saving should be left to those who make it both a business and a study. *Broccoli*, transplant Grange's, Snow's, and Walcheren, and the last spring *Broccoli* for lifting, to be packed in beds for the winter. *Brussels Sprouts*, these, together with *Savoy*s and *Curled Kale*, may still be planted, and every spare bit of ground filled. *Cabbage*, sow seed. There are so many fine varieties that it is difficult to make a selection; *Shilling's Queen*, *Sprotborough*, and *Atkins's Matchless* are good sorts for standing severe winters, and not running to seed. All, however, are not suitable to every soil. This, however, is the general season for sowing, and it is quite certain that if any plant is to be transplanted prior to, and is to stand the winter, it ought to be grown rapidly, and acquire strength early. *Cauliflower*, from the 10th to the 20th of this month is the best time to sow this and *Walcheren Broccoli* for the spring crop. *Dwarf Kidney Beans*, a few more may be tried for the last supply. *Lettuce*, sow; also *Endive*, *Chicory*, *Winter Spinach*, *Welsh* and *Deptford Onions* for drawing young throughout the winter. *Peas*, top Marrows as soon as they reach the height of their stakes. Dig down exhausted plantations of *Strawberries*, and let the ground be filled with winter stuff if there is not already sufficient of this planted; make a further sowing of *Turnips* if these are likely to be scarce before the winter is over. Attend to cutting and drying herbs as they become ready, and do not allow *Shallots* to remain in the ground after the tops die down, as in the event of a continuance of wet weather they will make fresh roots, which prevent their keeping.

FRUIT GARDEN.

No superfluous shoots ought to be kept on *Peaches*, *Nectarines*, and *Apricots* after this month, so that the wood for the ensuing year may be well ripened. *Pears*, *Plums*, and *Cherries* on the walls and espaliers are amenable to the same laws. Protect fruit from birds and wasps. The *Alpine Strawberry* ought to be encouraged this month by trimming off runners and placing slates under the fruit. About the end of the month is a good time to plant a bed of *Hautbois Strawberry*, if planted earlier the plants sometimes blossom in the autumn. A good breadth of the *Grove End Strawberry* ought likewise to be planted for preserving-purposes, first making the ground rich with dung.

FLOWER GARDEN.

Attend to the gathering and saving of choice perennial and biennial flower-seeds; these should be watched daily, and collected as they ripen. We do not advise this operation to be carried on to a great extent, as the returns would not be ade-

quate to the expense and trouble of collecting and cleaning. We merely allude to those showy species and varieties, some of which every flower gardener possesses and cultivates, and which, not being easily procurable from the seedsman, it is desirable we should endeavour to preserve. Take the opportunity of fine days for collecting; tie up in bundles, and label correctly. Seeds of plants which have burst their seed-vessels should be gathered in pans; place them in the seed-room till a wet day occurs, when the seeds can be rubbed out. Propagation of stock for next season must now be commenced and carried on with expedition, so as to secure strong, well-established plants before winter, and without the necessity of keeping them so close and warm as to induce weakly and watery growth. Hollyhocks are general favourites, but they do not afford cuttings freely, and are in general not over-plentiful in most places; these should, therefore, be examined often in search of any cuttings which they may afford, as those rooted about this time will make strong plants for next season. Attend to the tying-up of these and Dahlias. Sow Ten-week and Intermediate Stocks for spring flowering; transplant Brompton and Queen Stocks, and if the situations in which they are to flower are not at liberty, prick them out in nursery-beds, allowing them plenty of room to prevent weakly growth. Keep gravel walks perfectly clean and smooth by weeding, sweeping, and rolling as may be necessary. Keep climbers on walls within due limits. Continue to remove dead flowers from Roses, and give plenty of manure water to the autumn-blooming varieties. Plant-out rooted cuttings of Pansies in nursery-beds in a shady situation, keeping them well watered, if the weather proves dry, until they become established. Finish budding Roses at once, if not already done, and also let border Carnations, Picotees, and Cloves be layered without further loss of time.

GREENHOUSE AND CONSERVATORY.

It will be much to the advantage of the inmates of plant-houses, to reduce the shading after this time, to enable the plants to ripen their summer's growth, allowing more air to keep down the temperature, and so check any tendency to a second growth, which may show itself, and which can only take place at the expense of next season's bloom. Brugmansias, Clerodendrons, and other large soft-leaved plants should be frequently washed to keep down red spider, and be well supplied with liquid manure to keep them in a vigorous state of growth, which adds so much to their beauty. Remove Achimenes, Gloxinias, Tuberoses, and plants of the same habit from the conservatory when on the wane, and replenish from the reserve-houses to keep up the display. Epacrises, winter-flowering Heaths, and other plants requiring to have the wood ripened early may now be placed in a sunny exposure. As the wood is already formed, nothing remains but to get it well ripened; and although water must be given equal to the demands of the plant, a dry and warm atmosphere are essential to the perfect ripening of the wood, and consequent formation of flower-buds. Should the weather prove unfit for out-of-door work, it would be advisable to take the opportunity thus afforded to effect any arrangements necessary internally. It would be a favourable moment for carefully regulating conservatory climbers, and thoroughly cleansing the house, at the same time a fresh arrangement of the plants might be carried out, and some necessary potting performed. It is injudicious to defer this last operation, when at all necessary, until late in the autumn. Plants out of doors must be frequently examined, and carefully secured against all chances of injury from ungenial weather. Continue a system of stopping and training with young plants intended for specimens. Give a shift to Chinese Primulas, Cinerarias, and Chrysanthemums. Salvias and other autumn-flowering plants should be placed in their blooming-pots. Passifloras, and, in fact, most conservatory climbers, will be growing fast, and will require frequent training. Thin out weak and overstrong shoots, and reserve only sufficient to produce the desired effect; the blooms will be considerably finer, and the plants themselves more capable of producing well-matured wood when these little attentions are performed regularly.

STOVE.

Such of the inmates here as are intended for the decoration of the conservatory in autumn and early winter, should be carefully looked over, shifting all that are likely to want more pot room without unnecessary loss of time, so as to have the pots well filled with roots before the flowering season. Also, keep the shoots tied out rather thinly, and expose the plants to as much sunshine as they will bear without scorching their foliage,

in order to promote sturdy growth. Give clear liquid manure to young growing specimens, and repot any of those that are intended to have another shift this season, so as to have the pots well filled with roots before winter. Maintain a moist growing atmosphere, and ply the syringe vigorously upon any plant at all infested with red spider. Various stove climbers, as *Combretum*, *Quisqualis*, *Allamandas*, &c., will bloom for a considerable period, if the shoots on which the flowers are borne are slightly cut in when the blooms decay.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

HEAVY rains have been succeeded by rather rough stormy winds, and as these have been followed by a fair amount of sunshine, the ground was speedily dried for general operations; and when it was too wet a good opportunity was afforded for bringing up arrears of shed work, washing pots, preparing sticks, grinding scythes, &c., though the latter should seldom be necessary with a good scythe and a man who wields the sharpening-stone properly.

Potatoes.—Seized the opportunity of the dryness to take up most of the early Potatoes in the garden before they were subjected to more wet, as continued wet and a close moist atmosphere are almost sure to bring on the disease, and also because the ground was wanted for succession crops of winter Greens, &c. The Potatoes on sloping banks and in free open situations produced wonderfully heavy crops, and at present show no signs of disease; but those on flat ground, and more confined by bushes or rows of staked Peas, &c., every 10 feet or so, and which had received no earthing-up, did show signs of the old malady. Although some of our correspondents are impressed with the inutility of earthing-up the Potato under any circumstances, our own experience and observation would lead us to the conclusion that in somewhat stiff land it is better to plant rather shallow and earth-up the stems in a flattish ridge, to save the tubers from greening by exposure, and also in wet summers and autumns in order to insure the extra water running away from the tubers instead of resting about them. The grand remedies against disease are, however, fresh soil and free exposure, which cannot be easily obtained in closely cropped small kitchen gardens. The most puzzling fact of all is when, by due preparation of the soil in kitchen gardens, you obtain something like marvellous crops, as we had last season, and, just as in this, not a trace of the disease in sloping banks and open spaces; and yet, after housing the tubers quite dry and in thin layers in a cool dry place, ere two months have passed a third of the tubers are affected by the disease where one could not be found so affected at lifting-time. There is hardly a seeming evil but is attended earlier or later with a countervailing advantage; and the importance of fresh soil and an airy position for Potatoes may lead to the existence in new places of much smaller kitchen gardens, where only the earliest Potatoes shall be grown, and the main crops of these, Turnips, and Carrots, shall be obtained from open fields passing through the regular rotation of crops. Carrots and Turnips will thus be produced sweeter for the table than they can be obtained in old kitchen gardens, however attentive you may be to give them fresh soil by trenching and rotation of cropping.

Turnips, &c.—Thinned some sowings entirely of *Radishes*, and in other late sowings thinned the Turnips. Sowed a good piece only 15 inches apart in the rows, instead of 2 feet, as in the general crops, as the heads will not be expected to be so large, and just scattered a sprinkling of *Radishes* between them. A correspondent the other day was doubtful what kinds of *Radishes* to grow, there seemed to be such a variety in the seed lists, and asked what we thought of the long white and blackish winter sorts; to which we merely reply that we think just enough of them not to grow them, though we would not undervalue them, as tastes differ, and a single *Radish* is quite enough for us for a twelvemonth. Of long sorts we use the Long Scarlet and the Early Frame, and of Turnip-rooted kinds the White and the Red; but our Red this season is more of a dark crimson, and on biting it we do not think it is so tender as the Red Turnip-rooted. The White Turnip *Radish* when young—that is, little more in diameter than the size of a sixpence, is generally very sweet and nice, and it looks well on the table.

Of all Turnips, the sweetest to our fancy is the American Stone, or the American Red Top, from the purplish appearance of the top of the tuber, but which is of a clear white

inside, to meet the prejudices of the *artistes* of the kitchen. One great advantage of this Turnip is, that if your rows are thick, and you wish a succession from the thinnings, you may transplant them as securely as you would a lot of Lettuces, or a bed of Swede Turnips. At present we have several pieces of this Turnip where our bedding plants grow temporarily in the spring, and if there is any difference between them and those left from sowing in the usual manner, it is in the more equal appearance of the plants, the better form of the tubers, and, if possible, their milder and sweeter taste. The fact of their standing transplanting so well may often be turned to profitable account, and so out it must come, as a secret too valuable to be kept. Many crops as well as Turnips like fresh soil, but in their case it must be rich, the manure sweet, and the plants grown quickly and pulled young, to have the produce first-rate at table.

Cleared off Peas that were becoming exhausted. In general we like to sow single rows a good distance apart, with other crops between, but for two or three of the earliest crops it is often well to have a few rows about 4 feet apart, so that the space may be cleared at once, and planted with Broccoli and winter Greens. Have been busy filling such ground, and that from which such Potatoes have been raised, with Greens, and the later crops of Cauliflower, giving the latter less room than the plants would require when planted earlier in the season. Where the ground was poor, enriched it by trenching down rotten short grass and compost from the rubbish-heap. Planted out also more Coleworts, allowing no ground to remain empty, but just managing that the crops may be removed at one time, or nearly so, to suit succession crops in the spring.

The first-sown Cabbages are just through the ground, will scatter some wood ashes over them. Will sow a few more by the end of the week, and a little Cauliflower for the earliest next spring, and will sow again towards the end of the month, and in September, for successions. Made a sowing of Onions, to be repeated about the middle of the month, and again in the first week of September, the two first, chiefly for drawing when young, and the last for transplanting to bulb in spring. Sowed Spinach for autumn use, and will sow in the middle of the month, and again in the beginning of September, for winter and spring gatherings.

Celery.—Since a heavy hail shower this has been considerably spotted on the foliage, and the larger, finer plants seemed to have a yellowish tinge, of which the younger plants are free; and as they seemed damp enough, scattered a little soot over the foliage and soil, and will leave the rains to clear it away, or if they do not come soon enough, will sprinkle them overhead with water from a rose. We like to see this crop presenting a very dark, instead of a light green appearance. Those seem the least dark that were large plants when turned out, and the younger ones are making up to them in strength very fast. The first were thinned out of a bed, a part being left standing to come in early, and, therefore, the roots of those removed were a little curtailed, and, as we think we noticed at the time, they were planted with a trowel instead of a spade, to give full spreading room for the roots. The next in size were lifted with large balls from a border, and holes or trenches were made sufficiently large with the spade, so that the roots might spread out at once without any curtailment. We mention this latter matter, because the advantages of pricking out Celery in rich stuff on a hard bottom, are chiefly that the plants may be easily watered in the young state, and that the roots may be lifted in balls, and transplanted to the trench, so as to be affected by the moving as little as possible. We must find a place for some later Celery, for as yet we have scarcely three successions. The end of this and the next month are the great months for Celery-growing. Unless partially shaded it grows but little in bright weather in July. By using a little soot water in watering, we have scarcely ever been troubled with the grub in the leaves, and if it do come, in answer to several correspondents, we would say there is no cure but to squeeze them and kill them, and make the leaves distasteful to the insects that deposit the eggs beneath the outside of the leaf.

FRUIT GARDEN.

Went on regulating trees and potting Strawberries very much as stated last week. We regret now that we did not turn out more of our forced Strawberries early; but we could not find time. Those turned early out of pots into a border have supplied us with nice and pretty regular gatherings after the latest Strawberries were over; but to have them thus early, the forced plants must be turned out not later than May, if earlier all the better. As soon as we can find time we shall plant out

many runners in a rich piece of ground, and the earliest kinds will do for forcing next season, and others will come in for making fresh plantations of well-established plants, so that the ground destined for bearing Strawberries next season may still be cropped this winter. These are some of the moves which many must adopt where much has to be obtained from little room.

Orchard-houses.—The first would have been in if we had liked; but finding the fruit would be more valued later, we have given more air, even at the risk of causing a temporary check. Top-dressed all trees in pots the other day with a mixture of old Mushroom dung, hotbed dung, and a little soot mixed with it. These top-dressings tend to diminish the frequency of watering, and the waterings take down the nourishment of this mulching with them. As Mr. Rivers states, it is most amazing how soon this mulching disappears. Whether it is eaten up by the plants, or the water, or the air, it would be difficult to say; but the great point, whenever it disappears and the surface soil of the pot looks you in the face, is to renew the mulching. Other matters very much as in previous weeks' notices.

ORNAMENTAL DEPARTMENT.

In addition to what was alluded to last week, have been chiefly engaged in potting, and preparing for taking cuttings for the flower garden, regulating the same, and fixing after the winds and rains, and were we to go much into detail, it would be very much of a repetition of the excellent directions of Mr. Keane at page 108. If we can find time we want to divide and remove Violets, &c., and the sprinkling the Neapolitan Violets with a little sulphur from a dredge-box or a good-sized pepper-caster, will help to keep them free of red spider. Syringing them with the sulphur and lime liquid is also good for the purpose. Whatever means are used, they should be perfectly healthy before winter. The wind has given us a deal of work in the flower garden. As for the beautiful Verbenas, we suppose we must give them up here, as every night they are cropped like a carpet by rabbits and other four-footed intruders. The few flowers of to-day are gone before the morrow comes. Verbenas will never succeed until Rabbits are caught, or sent out and kept out.—R. F.

COVENT GARDEN MARKET.—AUGUST 11.

THERE is little alteration to be noticed here this week. Some fair samples of Pears from the continent have come to hand, and include Jargonelles and Beurré d'Amanlis, varying in price from 1s. to 8s. per doz. All other articles are quite sufficient for the demand.

FRUIT.

	s. d.	s. d.		s. d.	s. d.		
Apples ½ sieve	2	0 to 3	0	Melons..... each	2	6 to 5	0
Apricots doz.	3	0	4	Nectarines doz.	4	0	0
Cherries lb.	0	4	1	Oranges 100	12	0	20
Chestnuts bush.	0	0	0	Peaches doz.	10	0	15
Currants sieve	5	0	6	Pears (dessert) .. doz.	1	0	8
Black do.	5	0	8	" kitchen .. doz.	0	0	0
Figs doz.	4	0	8	Pine Apples lb.	3	0	5
Filberts lb.	0	0	0	Plums ½ sieve	7	0	0
Cobs 100 lbs.	0	0	0	Quinces ½ sieve	0	0	0
Gooseberries .. quart	0	4	0	Raspberries..... lb.	0	6	0
Grapes, Hothouse.. lb.	2	0	5	Strawberries..... lb.	0	6	1
Lemons 100	6	0	10	Walnuts..... bush.	6	0	8

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.		
Artichokes each	0	2 to 0	4	Leeks bunch	0	3 to 0	0
Asparagus bundle	6	0	0	Lettuce..... per score	1	0	1
Beans, Broad.. bushel	5	0	0	Mushrooms ... potting	3	0	4
Kidney .. ½ sieve	2	0	0	Must.& Cress, punnet	0	2	0
Beet, Red..... doz.	2	0	0	Onions .. doz. bunches	4	0	0
Broccoli bundle	1	0	1	Parley ½ sieve	0	9	1
Brus. Sprouts ½ sieve	0	0	0	Peas per quart	0	9	1
Cabbage doz.	1	0	0	Potatoes bushel	2	0	5
Capitums..... 100	0	0	0	" Kidney do.	3	0	0
Carrots bunch	0	4	0	Radishes .. doz. hands	0	6	1
Cauliflower .. doz.	2	0	6	Rhubarb .. bundle	0	4	0
Celery bundle	2	0	0	Savoy doz.	0	0	0
Cucumbers..... each	0	0	0	Sea-kale basket	0	0	0
" picking doz.	0	0	0	Shallots lb.	0	8	0
Endive doz.	2	0	0	Spinach bushel	2	0	0
Fennel bunch	0	5	0	Tomatoes.... per doz.	2	0	4
Garlic lb.	1	0	0	Turnips bunch	0	4	0
Herbs bunch	0	2	0	Vegetable Marrows dz.	0	9	1
Horseradish .. bundle	2	6	4				

TRADE CATALOGUES RECEIVED.

W. Cutbush & Son, Highgate.—*Bulb Catalogue for 1886.*
Hamilton & Wright, Surrey Seed Warehouse, Thornton Heath, London, S.—*Select List of Bulbs.*

TO CORRESPONDENTS.

.. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

TWELVE STOVE FERNS FOR EXHIBITION (*A Constant Reader*).—*Gymnogramma Wetenhalliana*, *G. peruviana argyrophylla*, *Davallia aculeata*, *Goniophlebium appendiculatum*, *Neottopteris australasica*, *Adiantum macrophyllum*, *A. cuneatum*, *Asplenium rachirhizon*, *Drynaria muscicola*, *Blechnum corcovadense*, *Nothochliza trichomanoides*, *Lonicitris Ghiesbreghtii*.

TWELVE GREENHOUSE FERNS FOR EXHIBITION (*Idem*).—*Gleichenia spelunca*, *G. flabellata*, *Acrophorus hispidus*, *Leptopteris superba*, *Mobria thurifraga*, *Cheilanthes landigera* or *elegans*, *Asplenium caudatum*, *Balanium cultis*, *Didymochliza truncatula*, *Asplenium dimorphum* (*diversifolia*), *Pteris scaberula*, and *Nephrodium molle corymbiferum*.

HARDY FERNS FOR EXHIBITION (*Idem*).—*Asplenium marinum* *trapeziforme*, *Blechnum spicatum ramosum*, *Athyrium Filix-femina plumosum*, *A. Filix-femina depauperatum*, *Lastrea Filix-mas cristata*, *Osmunda regalis cristata*, *Woodia livensis*, *Polystichum angulare plumosum*, *P. angulare proliferum* *Wollastoni*, *Scolopendrium vulgare ramosum majus*, *S. vulgare supra-lineatum*, and *Asplenium refractum*.

TREE FERNS FOR EXHIBITION (*Idem*).—*Cyathea dealbata*, *Dicksonia antarctica*, *Cyathea Smithii*, *Dicksonia squarrosa*, *Alsophila excolata*, and *Cibotium princeps*, which last is the only one requiring a stove temperature.

VINES MILDWEED (*F. H. and R. W.*).—The leaf sent was attacked with *Oidium* or *Vine mildew*. The leaves and stems should be dusted with flowers of sulphur, admitting air plentifully.

SOWING DRUMHEAD CABBAGE (*Idem*).—To come in next July the seed should be sown in the second week in August.

FUCHSIA BLOOMS DROPPING (*Homo*).—We suspect you give too much water and too little air.

DOUBLE CINERARIA (*P. J. Twiston*).—Your *Cineraria* is only semidouble. Save the seed and sow it, and you may raise one that is perfectly double. The hardy Ferns that will suit you are *Diplazium thelypteroides*, *Lastrea cristata*, *Lastrea marginalis*, *Osmunda regalis*, *Onoclea sensibilis*, *Struthiopteris germanica*.

FUCHSIA CORYMBIFLORA AND FULGENS CULTURE (*C. H. D.*).—Both require the same description of soil—viz., two-thirds turfy loam and one-third leaf mould, with a free admixture of sand. Do not overpot, and avoid cutting in hard, as that and too much pot room only tend to produce foliage. The leaves and flowers drop from an insufficient supply of water and air. Whilst growing the plants should have plenty of water, air, and light, and then they flower as freely as other *Fuchsias*. Generally their culture is not different from that of ordinary plants. After flowering, well ripen off.

PLANTS FOR A LONDON HOUSE-TOPE GREENHOUSE (—).—We fear that the atmosphere will be too dry for Ferns, but some of the commoner ones might be tried, and such plants as *Fuchsias*, *Myrtles*, and *Balsams* in summer, and *Chrysanthemums* in autumn. Some of the bedding *Pelargoniums* would also do, but we would not recommend the greenhouse kinds. In winter and spring bulbs of all sorts might be had, with *Cinerarias* if you have the means of heating, or rather of keeping out frost, but we would not advise *Camellias* or *Asaleas*. *Salvias*, however, would do. Few Ferns succeed well in sitting-rooms till the summer be well advanced, when, their foliage being hardened, they suffer less from the dry atmosphere. Common *Adiantums*, *Athyriums*, and *Polypodiums*, look as well as any, so will *Scolopendriums*, and there being several varieties of the last possessing much beauty they may with advantage be tried.

SCORCHING OF FRUIT-TREE LEAVES.—"W. W." Mount House, Boston Spa, Yorkshire, would like to correspond with "INQUIRER" who wants to learn the cause of his fruit-tree leaves being scorched in his greenhouse, and the means of preventing the evil.

GRAFTING ROSES.—Will "LOCK NESS" kindly explain whether he grafted the Manetti stocks and immediately took them up from the open ground, and then potted them? Will he also state where the indian-rubber bands are to be procured, their width and length, and how they are fastened at the end with a bit of thread? "LOCK NESS" also alludes to another kind of stock than the Manetti, mentioned by him two or three years since.—M. D.

VIOLA CORNUTA (*F. M. W.*).—There are three varieties of *Viola cornuta*. Apply to the Messrs. E. G. Henderson, of St. John's Wood, London, for Will's variety. Six plants will be enough to enable you to propagate a stock for next spring. As soon as the plants arrive, divide and plant them out in some rich soil. Any time in October take up a few of the strongest plants, pot them in 48-sized pots, place them in a cold frame, and, as they grow, pinch out the tops of the shoots. Instead of throwing these away, if they are an inch or so long, and you have a small cucumber-frame at liberty, prick them out in it, and they will strike sometime during the winter, but if you make use of the tops in this way cut them out with a sharp knife instead of pinching them out. Any time in March place the plants you have potted in a gentle hotbed or in any structure where there is a genial atmosphere. The plants will grow very freely, and may be propagated with care from the young free-growing shoots. By managing *Viola cornuta* as recommended above, you will have three chances of raising a stock. If you fail with your plants in heat, those left in the open ground will be safe. If you be successful in all three instances (and there is no reason why you should not), you may by next May multiply your six plants by hundreds.

STRAWBERRY RUNNERS (*E. N.*).—The runners which you have layered in pots should be detached from the parent as soon as the roots show themselves at the bottom of the pots. Plant at once in the bed prepared for them. Strawberries require a rich and deeply stirred soil, and prefer one that is strong. They do fairly but not so well on sandy or clayey soil.

DESTROYING BROWN SCALE (*Prestonian*).—The insect on the *Deutzia* sent is brown scale. Immerse the plants for a minute in a tub containing a solution of soft soap at the rate of 4 oas. to the gallon of water heated to 130°, let them stand until dry, and then syringe with water at a temperature of 140°. Lay the pots on their sides, and turn them so as to thoroughly wet every part. Repeat the operation at intervals of three weeks until the plants are clear.

GRAPES NOT COLOURING (*Idem*).—We fear you have too heavy a crop, and do not give air enough. If the temperature you name is that of the night it is too high by 5°; and the syringing of the walls, floors, &c., in the afternoons should now be discontinued. Leave a little air on at night. (*Clytonensis*).—We have little doubt that the Vines have been allowed to bear too heavy a crop, and that too much liquid manure has been given.

RHODANTHE, &c. (*William Hay*).—If you show the flowers in the day you will show them open, but if in the night you must show them closed.

STANDARD ROSES WITH LARGE HEADS (*Agnes*).—The size of the heads is an advantage; and we do not know what you can do to them beyond cutting back the long straggling shoots to six leaves now; and at the end of March or beginning of April the very weak and dead shoots may be removed, thinning the others if too numerous and close together, and shortening the long shoots to four or five buds.

PROPAGATING VARIEGATED PELARGONIUMS (*Idem*).—It is much better to take cuttings of the gold and silver-leaved kinds now than to wait till later in the season. We prefer taking up old plants and striking cuttings from them in a gentle heat in spring. Cuttings of the scarlets may be taken from this time to the middle of September; the earlier the better.

CLUB (*T. D.*).—We would recommend a dressing of gas lime at the rate of twelve bushels an acre as the most likely remedy for this disease, which, as you are doubtless aware, is of frequent occurrence in all old garden ground.

CLEMATIS JACKMANNI (*Hortensis*).—This will grow in any good garden soil, and any situation. It is readily propagated by cuttings in a cool frame.

PROPAGATING CENTAUREA RAGUEIRA (*Idem*).—If plants are taken up, and divided in July or August, or even cuttings are taken off at that time, every bit will strike, if ordinary care be taken to prevent damping; and one of these little bits struck will have a better chance to pass through the winter than old plants taken out of the ground, however carefully managed. Small bits will also strike freely in spring in a little dryish heat. It is a good plan where there are some old plants to top them in February, and then in March they will throw out a lot of shoots 2 or 3 inches long, which strike freely round the sides of a pot. The great secret of success is to divide or strike early, so as to have the plants well rooted and established before winter. Young plants do best for edgings. If kept dryish they will stand plenty of air and cold in winter, if frost be excluded.

STRAWBERRY DR. HOGG (*J. T. S.*).—This will prove one of the most valuable Strawberries in cultivation. It is a British Queen as late as the Elton and Frogmore Late Pine, but it is a far more robust grower than the British Queen, and the fruit colours perfectly, while it possesses the true Queen flavour. This variety, therefore, prolongs the Queen race to the latest period of the season.

CLIMBERS FOR A CONSERVATORY (*G. H. C.*).—We would do as you propose. For climbers in front, and to go up the roof, we would have *Mandevilla suaveolens*, *Bignonia chirens*, *Fassiflora carulea*, and *Habrothamnus elegans*, and these we would plant in elegant boxes some 18 inches square. On the floor we would have from three to five largish vases, with their pediment resting on a wooden one, painted and sanded to resemble stone, with an opening on one side from which to remove a tin vessel that would catch all the water from waterings. Such vases filled with flowers, and with little creepers hanging over the sides, would look very nice, and if there were more room smaller vases or tassels might be used. In such a drawing-room conservatory we would not have a single red clay pot.

MAKING MUSHROOM SPAWN (*Amateur*).—If you have had a small gathering in seven weeks that by no means shows that the spawn has been bad. There may yet be plentiful gatherings; but it is just possible there may not, even though your beds have been well managed. You will find minute directions for making Mushroom spawn at page 203, Vol. IX., New Series, or No. 238, September 12, 1885, which may be thus summarised in answer to your queries. No better time for making the spawn can be fixed on than the end of August and the month of September. Take, as materials, a barrow-load of cowdung, rather stiff, and two barrow-loads of horse-droppings, with a little short straw with them, and half a barrow-load of fibry loam. Mix these up into a stiff mortar-like substance until it is pretty well incorporated and looks like grafting-clay. Then make a frame either of iron or wood, say half-inch boards if the latter, and in four pieces—that is, two sides and two ends, enclosing a space of 9 inches long, 4½ inches wide, and 1½ inch deep. Then obtain a flat clean board, and a bucket of water, dip the frame in the water, place it on your board, fill it with the prepared dung, strike level with a spade or trowel, and turn out the brick on boards, to dry on its flat side. In a couple of days make two holes in the brick, but not going through it—say three-quarters of an inch in diameter, turn the bricks until they are tolerably dry, then into each hole push a piece of good spawn, and draw a little cowdung or clay over it to prevent its falling out. Next make up a slight hebed of litter, on which build these bricks in open honeycomb or pigeon-hole fashion, and cover over with litter, so that these spawned bricks shall have a temperature of from 80° to 85°, and not more. As the spawn runs, the bricks must be examined, and, as soon as they are filled with the gossamer-like white spawn threads, removed, and kept in a dry place until wanted for use. Some bricks or pieces will be ready to remove before others.

HEATING A VINEY (*J. H., Bilton*).—Your arrangements will keep you safe, but you will not be able to keep up a high temperature in very cold weather. In your forcing part adding another flow pipe would be economy in the end, and we would be inclined to say the same of the cooler house. A flow and return would prevent the necessity of having the pipes too hot, and you will save fuel by having more piping. Some £5 or so saved now will insure a future loss. The saddle boiler we would recommend would be 24 inches long, 19 inches wide, and 16 or 17 inches in height.

THUJOPSIS DOLABRATA, **RETINOSPORA OBUSA**, AND **LIBOCEDRUS CHILII**—**IN YORKSHIRE** (T. W.).—We fear that the last-named will succumb to very severe winters like that of 1860-61, which we know it has done in more favoured parts of England; still we would try it. *Retinospora obtusa* we believe to be hardier, and it seems to grow very freely in places where it has been tried. *Thujaopsis dolabrata* is less free in growth, but may, nevertheless, be quite hardy. We would expect the *Retinospora* to be the best of the three, and the one most likely to become a fine tree. A dry soil, inducing an early ripening of the wood, has much to do with the success of the plant. Some Conifers, such as the *Wellingtonia*, continue their growth very late in the season, and when suddenly caught with cold weather they suffer in consequence. We would be disposed to try the species which you mention, sheltering them a little the first winter, as it often happens newly planted trees or shrubs do not then mature the growth of that season, although they may do so afterwards.

LILIUM AURATUM (R. B.).—Your *Lilium auratum* is going to rest some wintering it, and keep it in a dry cool frame.

HEBECLIA MAGNIFICA CULTURE (W. H. W.).—We would support the head of bloom on such a young subject to be grown as a specimen plant, and so that it would incline gracefully; but we would not keep it long, but

cut it off, that the buds from the axils of the leaves might burst into shoots and be encouraged. Stop when 2 or 3 inches long, and let the plant receive plenty of heat and moisture to encourage growth. More light, air, and less moisture next summer will cause the flower-shoots to show, and they would do so sooner if the growing influences were not kept up. It flourishes in peat and loam, and may have occasional manure waterings, and especially when the bloom shows.

NAME OF FRUIT (John M. Miller).—Your Grape is Red Chasselas. We had 8d. to pay for carriage, which please remit.

NAMES OF PLANTS (A. R. C.).—*Teucrium fruticosum*; *Stachys lanata*. (A. T. S.).—Specimens very bad. 1, *Blechnum occidentale* (?); 2, *Doodia caudata*; 3, insufficient for identification; 4, *Platyloma hastata* (?); 5, *Polypodium phlegmatodes*; 6, *Polystichum* sp.; 7, *Cheilanthes hirta*. (M. D.).—1 and 2, *Athyrium Filix-foemina* var.; 3, *Pteris aquilina*; 4, *Pteris longifolia* var. serrata. (E. J.).—*Hypericum montanum*. (Edwyn).—*Pteris cretica*; *Adiantum pedatum*. (E. T. W.).—*Oncoclea sensibiliba*; *Indigofera decora*. (J. P. G.).—*Statice limonium*. (A. Reader).—From the small portion you have sent, your plant appears to be a white variety of *Myosotis palustris*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending August 11th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 5	29.795	29.684	71	40	61	60	N.W.	.00	Cloudy; fine; very fine but cold at night.
Mon. . . 6	29.735	29.585	60	50	61	59	S.W.	.48	Overcast; boisterous, wet, and cold; boisterous with rain at night.
Tues. . 7	29.578	29.399	70	51	61½	59	S.W.	.16	Cloudy; boisterous and showery; fine at night.
Wed. . . 8	29.680	29.518	70	45	61	59	S.W.	.09	Masses of dusky white clouds; showery and rather boisterous; rain.
Thurs. . 9	29.654	29.518	73	40	61	59	S.W.	.11	Some low dusky white clouds in deep blue sky; fine; very fine.
Fri. . . 10	29.888	29.657	70	41	61	59	N.W.	.08	Clear and cold, with some low white clouds; overcast and cold at
Sat. . . 11	29.108	29.004	78	50	61	59	N.	.23	Fine, with low and dusky clouds; rain at night. [night.]
Mean	29.767	29.615	69.48	45.38	61.07	59.14	..	1.19	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

VULTURE HOCK IN BRAHMAS.

Being one of those curious people who desire to know the reason "why," I am now anxious to know why the vulture hock is objected to in Brahmas. There must be, I suppose, some ground beyond the mere fancy of the period against it, and as the season advances it becomes important to know what is the objection; for without some real ground for opposing it, it seems hard to make it a disadvantage, and, perhaps, cause the whole class to suffer in the long run.

I believe it is right to say, that there is no cause without its effect, and I presume, therefore, the simple converse to be also true. What is the cause, then, of the vulture hock? Is it a sign of impure breeding anywhere? If so, why are vulture-hocked birds even admitted at exhibitions? Cochins are suffering now, I believe, under the same ban; but if it can be alleged to come from them, it may surely with equal right be argued that the Cochins have taken it from the Brahmas, as the actual source cannot be discovered, and that it is, therefore, perhaps a legitimate appendage (I speak, of course, as an amateur in search of knowledge, rather than laying down facts). Again, if it is a sign of cross-breeding, why does not the plumage otherwise suffer? and I think it will be admitted to be quite as correct in marking, &c., as the plumage of birds without the brand. Some of our best breeders prefer vulture hocks, I believe, so they can hardly be a sign of degeneracy. Why, then, are vulture-hocked birds to be at a disadvantage in exhibitions? If they are admitted, supposing no valid argument can be brought against them, surely they ought to be on an equal footing with the rest; or else, some real ground of objection being proved, let them be absolutely forbidden, and breeders will then know what they are about. In another year, as it stands at present, perhaps nothing else may be approved of!

As I may be taken to be interested in the advancement of the vulture hock, I can candidly say, beyond wishing to know, as I said before, "the reason why" it does not matter to me in the least. The subject, however, appears to me to deserve a thorough investigation—that is, if poultry breeding is important, which far be it from me to deny. I tremble at the crushing my presumption may bring upon me, but if you deem this letter worthy of publication, I hope I shall do Brahmas and Brahma fanciers a good turn.—A QUESTIONING BRAHMA.

[The above was sent to a well-known poultry Judge, and this

is his reply:—"The birds originally imported had no vulture hocks, and those that have the appendage are a later introduction. The same is true of Cochins. There was an attempt at the second London show to admit the vulture hocks, and the question you ask about the Brahmas was put by all those who had vulture-hocked birds. Evidence was at once collected from all those who were the first importers and the largest breeders, and in no instance were the vulture hocks imported or bred from imported birds. That which is intended for exhibition should come as nearly as possible to the admitted standard of the breed, and I think that, in all breeds, has been safe in the hands of the gentlemen who for many years have awarded the principal prizes. The proof of it is, there has been little or no alteration in their requirements in any breed. If the objection to the vulture hocks were new, or only just published, then those who possess vulture-hocked birds might justly complain, and ask why they were excluded from competition; but they have always been excluded. Doubtless they arose from the freak of some amateur, or they were the result of a distant cross, and the unhappy owner of it, instead of 'stamping it out,' perpetuated it. I have tried to explain why they are disqualified, I want to ask, Why they were ever produced?"

Some months have elapsed since any article upon this subject appeared in the pages of "our Journal;" and as the points involved in the late controversy affect a large number of breeders besides myself, I feel urged to resume the subject, especially as the season has now arrived when a selection of young birds for future exhibitions must be judiciously made. When "Y. B. A. Z.," in the commencement of last spring, challenged "one of our most able judges," (whose name I do not happen to know), to justify his objection to the vulture-hock covering upon our birds, it was hoped that the challenge would be accepted; but it was not, so that at present we are all at sea upon the matter. And I would respectfully inquire whether the awkward position in which we are thereby placed ought not to receive the considerate attention of the Judge who first opened the controversy by affirming, what has since been palpably disproved—that the vulture hock is a recent introduction. The silence he has thought proper to maintain may be regarded as a tacit admission that he was in error; or it may signify something else, and which we hope is not intended, as it would tend to irritate rather than appease. Between exhibitors and the judges there ought to exist the most friendly feeling upon poultry matters; but if there is secret distrust entertained on the one hand, and an erratic if not arbitrary judgment displayed on the other, the result must sooner or

later prove extremely prejudicial to the interests of our poultry shows. In sending our pens for competition we should possess the firmest persuasion that the standard by which they will be tried is that which has been set up in former years—that which is recognised and fully approved of by exhibitors themselves, and that no deviation from it will in any wise be made. If defeated, we can then patiently endure it, because we know that the rules of judging have been strictly and impartially carried out. If, however, on a sudden a judge shall be pleased to make such alterations in the standard as shall strike at some of the finest characteristics of a class, convert that which was formerly deemed essential and ornamental into a glaring defect, and sweep from the proud and high position it has long held that very type of perfection in a class which till late never contested for a prize but to win it, and which never appeared at an exhibition but to be most admired;—what remains for exhibitors but to protest against such an abuse of delegated power, and to take effectual steps to prevent the recurrence of such a prodigious wrong? If what is accepted as perfection in a class one year may, through fickleness and caprice, be reprobated the next, what reliance can breeders possibly repose even upon the most promising specimens they are rearing? and what faith can they have in the judges themselves when their opinions are so fiftful and contradictory?

By allowing the question to remain an open one nothing but confusion and mischief must ensue. It is highly detrimental to the whole class of Brahma fowls; it creates suspicion where it did not exist, and feeds the flame where it has been already kindled; it unsettles breeders; it disheartens many; it misleads persons who are providing themselves with stock; it makes a wrong impression abroad, and works injuriously every way. If not brought to a speedy termination, it will require no prophet's eye to foresee the consequences that will spring out of it in a considerable diminution of entries for our annual shows. If we are at the expense and hazard of sending a few pens to an exhibition, we ought certainly to know beforehand what specimens should be sent; and if objections are taken to any particular marking which have not heretofore been taken, and which are not taken by other judges of equal ability in judging, are we not entitled to inquire upon what ground those objections are raised? and does not common courtesy demand that an explanatory answer should be given?

I have been at the trouble of writing to several eminent breeders of Brahmas upon the subject of the vulture hocks, and I find that most of them are decidedly in favour of it, not merely on account of the feathering itself, which they consider ornamental, but because the birds thus marked almost invariably carry the heaviest fluff, and have the shortest, best-feathered legs. The feathering we are contending for is not a long, stiffly set mass of feathers, reaching nearly to the ground, which may be deemed unsightly, and which I have never observed in birds of the larger growth, but a moderately curved frill, from 1 to 1½ inch round the joint, of soft and flexible texture, and this, a popular writer on Brahmas affirms, "should appear." To the inquiries I have made only one gentleman has objected; and when I pressed him for his reason, to my great surprise and infinite amusement he sincerely remarked, that "the vulture hock was a sign of weakness in the leg joint, and therefore it was a defect." A greater blunder was never made. Birds of stouter frame, of larger limb, with bones stronger, thicker, more firmly set, and knit together with more powerful joints, are not to be found among the Brahma species; and if our opponents have no better reason for supporting their opposition than this, I would advise them at once to give up the contest, or for ever hold their peace. This was, however, the only person that I have found object to our specimens. Among those who approve is a lady, whose treatise on poultry many have read and admired. She remarks, "It is hard upon us, this change of fashion in Brahmas. To be abundantly feathered there must be a tendency to vulture hocks."

So strong and general a predilection existing in favour of our birds, is it not much to be deplored that any gentleman holding the office of a judge should come down with a pouncing veto upon them at the annual shows? It is, however, a satisfaction to know that other judges are unbiased by the prejudice we are combating, as was evident from their award of prizes at the last West of England Show to birds that were more or less vulture-hocked. But Birmingham is looming in the distance, and whether a broad line of demarcation between the covered and uncovered hock joint will be drawn at Bingley Hall, is a question in which all exhibitors, like myself, are concerned. We insist that it should not be drawn for the abun-

dant reasons which have been brought forward in the course of this controversy; but if arbitrary rule should be allowed to over-ride popular opinion and calm remonstrance, we have no alternative but to keep our pens at home. I sincerely trust that the grievance which has so frequently been complained of, will, upon sober reflection, be speedily removed. It is in the power of the unknown but able Judge to do it.

The breeding season is now over: thousands of beautiful Brahma chickens, full of young life, are heard at early morn, chirping their cheerful notes as they rapidly and eagerly snatch up the grain scattered over their green runs; and when we visit the older broods at noonday—pretty creatures! there they are, stretching their fine large limbs on sunny bank, or beneath the shady covering of the hawthorn bush. Day by day they are gaining size, and strength, and plumage; their good points are coming more and more prominently into view, amply repaying us in promises for the future for all the expense, care, and anxiety we have sustained in rearing them; and now from this and that goodly group the most admired and likeliest to win many a laurel in the hard-fought battle are about to be selected, and all that we demand for them is fair play and nothing more. Let them be permitted to enter the lists without any distinction being made between the vulturized and naked hock, and our end is gained, our ambition is gratified. The pen of controversy will then be allowed to return to its resting-place; our confidence in the decision of judges will be restored; our co-operation with existing poultry committees will be heartily rendered; the aloof of contention will be exchanged for the olive branch of peace; a good understanding will exist; a fresh stimulus to friendly and honourable emulation will be imparted; and, forgetting the past, we shall rejoice in the harmony which has been established, and render all honour to the judge, the sentence from whose lips has conferred such a boon upon a large number of the prescribed and oppressed offspring of the Brahma tribe.—JUSTITIA.

[We have always admired the vulture-hocked Cochins, and we know that some of the earliest bred by Mr. Sturgeon were so feathered. We also know, from our own experience, that some of the finest birds are vulture-hocked. "JUSTITIA" says the same of Brahma Pootras. Such being the case, why not have separate classes—vulture-hocked, and not-vulture-hocked?—EDS.]

EVIL DOINGS OF THE SUFFOLK OR WOODBRIDGE POULTRY SOCIETY.

THE above Association, under the presidency of the Right Hon. Lord Rendlesham, and under the patronage of Lord Henniker, Sir Fitzroy Kelly, and a large number of the clergy and gentry of Suffolk, is earning a notoriety which is not to be desired. Although the Show was held on the 24th of May last, the prize money and silver cups have not yet been delivered, and every application by letter, of which there have been a vast number, is left unanswered. In one instance, and probably in many others, a pen of birds has not been returned to the owner, and he is not able to obtain any answer to his applications as to what has become of his property. In my own case I can neither obtain my prize money nor an answer to my letters.

Were there any difficulty or failure in the results of the Show, in a money point of view, no one would have been more ready than myself to meet the Committee, either by a total abandonment of my claims, or by receiving a composition; but when the letters of gentlemen are left unanswered, and the names of others who patronise the Show are indirectly involved in the evil doings of the officials, any consideration of the kind, even if needed, is entirely out of the question.

I do not suppose that these remarks will be very intelligible to those for whom they are intended; but there is a method of addressing these people which is not beyond their comprehension, and which I shall adopt—namely, by process in the County Court.—EGGERT.

PRESERVING EGGS.

In the Number for July 24th, some hints are given as to a mode of preserving eggs in lime. The plan is undoubtedly very good, and I have myself practised it successfully for several years, but I found some difficulty in taking the eggs out of the lime without breaking them. For the last two years I have adopted another plan. I take a deep earthenware jar, slake the lime in it, and as soon as the lime has settled, I sink

the top of an old hamper, to rest on the sediment. I then drop the eggs into the clear lime water above, the top of the hamper preventing them from sinking into the lime. I found that this plan answered just as well as that which is described at page 76, and I had only two bad eggs in five hundred.—A New Subscriber.

GOOLE POULTRY SHOW.

THIS was held on August 2nd, and for a first meeting was patronised by a large company, for, although the weather was very unfavourable, there could not have been fewer than two thousand persons present in the afternoon.

There was a good show of birds, but, as is often the case at this season, many of the lots were out of feather from moulting, which tended to lessen the richness of their appearance. *Spanish* headed the list, and the prize for this class was won by a superior pen of Mr. Beldon's, a well-known exhibitor. The *Dorking* class which came next under the Judge's notice was very moderate, and also the *Cochins*, and the prizes were generally won by medium birds. The pen which won the *Game* prize (a cup, value £3 3s.), was one of the great attractions of the Show, and the spectators by hundreds loitered about the pens as if loth to leave them to gaze upon inferior birds. The three classes of *Hamburghs* were all of great merit, and called forth the praises of the Judge. The *Poland* class was also first-rate. The *Bantams* were only moderately good, and scarcely received a notice from the visitors.

The *Pigeons* were all of superior merit and attracted much attention. The following are the awards of the Judge, Geo. Hatfield, Esq., Braithwaite Hall, Doncaster:—

SPANISH.—First, H. Beldon, Goffstock, Bingley. Second, J. Hatfield, Cottingham.

DORKINGS.—First, J. Hatfield. Second, W. Dawson, Hopton, Mirfield. **GAME** (Black-breasted and other Reds).—First, H. Beldon. Second, F. Sales, Crowle.

GAME (Duckwings and any other variety).—First, T. Chantry, Goole. Second, F. Sales.

GAME (Any variety).—Silver cup, F. Sales.

HAMBURGH (Golden-spangled).—First, J. W. Cannan, Bradford. Second, H. Beldon.

HAMBURGH (Silver-spangled).—First and Second, H. Beldon.

HAMBURGH (Golden-pencilled).—First, S. Smith, Northwram. Second, H. Beldon.

HAMBURGH (Silver-pencilled).—First and Second, H. Beldon.

POLISH (Any variety).—First and Second, H. Beldon.

ANY OTHER PURE OR DISTINCT BREED NOT PREVIOUSLY CLASSED.—First, H. Beldon. Second, W. Glentworth, Goole. Extra Second, H. Beldon.

GAME BANTAMS.—First, W. Clayton, Howden. Second, W. Chester, Old Goole.

BANTAMS (Any other variety).—First, J. R. Jessop, Hull. Second, J. W. Cannan.

ANY VARIETY.—First, H. Beldon. Second, R. Newbitt, Epworth.

GAME BANTAMS (Any variety).—Prize, J. W. Cannan.

GEES.—Prize, O. A. Young, Driffield.

TURKEYS.—Prize, F. W. Porter, Goole.

GUINEA FOWLS.—Prize, O. A. Young.

DUCKS.—First, E. P. Porter. Second, J. R. Jessop.

FENCIBLES.—**Carriers.**—First, S. Robson, Brotherton, South Milford. Second, J. Thackray, York. **Croppers.**—First, J. Thackray. Second, S. Smelt, Beverley. **Tumblers.**—First, G. Snelling, Hull. Second, Messrs. Grant & Tomlinson, Thorne. **Barbs.**—First, Messrs. Grant & Tomlinson. Second, C. Cussons, Hull. **Jacobins.**—First, H. Beldon. Second, C. Haycock, Thorne. **Trumpeters.**—First, J. Thackray. Second, H. Beldon. **Ferrets.**—First, H. Beldon. Second, S. Smelt. **Fantails.**—First, J. Thackray. Second, C. Cussons. **Any other variety.**—First, S. Robson. Second, J. Thackray (Swallows).

CLITHEROE POULTRY SHOW.

THIS Exhibition was held in connection with the annual meeting of the Agricultural Association, on Saturday, August 4th, and the result, both in the number and quality of the birds exhibited, has far exceeded the expectations of the Committee when they issued their amended and more liberal prize list. In the twenty classes into which the schedule was divided, 284 pens were entered, and most of them contained first-rate birds from different exhibitors in all parts of the kingdom. Both Judge and exhibitors expressed their entire satisfaction with the arrangements, both for their convenience and for the well-being of the specimens. The condition of the birds was excellent, and far beyond what could be expected at this advanced season, more particularly as poultry-breeders generally have found that the moulting season has begun fully a month earlier than usual. Had the Show been held at a more favourable time, the number of entries would, no doubt, have been considerably larger.

The *Game* fowls were very good. The cup for the best pen of *Game* in the Exhibition was awarded to Brown Reds belonging to Mr. Brierley, of Middleton. To this gentleman were allotted also the cup and second prize in the Single *Game* Cock class, the first-prize bird, a Black Red, being considered by the Judge, Mr. Teebay, the best Black Red he ever saw. Messrs. Fletcher, Julian, Westall, and Fell exhibited very fine specimens. The cup for coloured *Dorkings* went to Mr. Lingwood, of Barking. The cock, a very handsome bird, was not mated equally. The class generally was very good, and besides the three prizes, five pens were highly commended. In

this class, as in the *Spanish*, the third prize was awarded to a very fine pen of chickens. *Cochins* were moderate, but much out of condition. The cup was awarded to a pen of Partridge-coloured belonging to Mr. James, Kirby-Lonsdale, which were claimed at the price put upon them, £10 10s., directly the Show opened. Some splendid specimens of White *Cochins* were sent by Mr. Zurhorst, of Dublin, and this class was the best in the *Cochin* variety. *Brabams* were very good. The cup was given to the well-known pen so long exhibited by Mr. Boyle, now the property of Mr. Pickles, of Todmorden. The *Spanish* class was one of the best in the Exhibition. The cup went to Messrs. Burch & Boulter. The cock is one of the best we have seen lately, and had he been accompanied by the hen in the second-prize pen, a pen would have been made which could scarcely have been surpassed, if equalled. A very good pen of chickens received the third prize. Very good pens were exhibited by Messrs. Thresh and Beldon. The hen in Mr. Thresh's pen attracting the attention of all *Spanish* admirers by the extreme beauty and quality of her face. *Hamburghs* formed a very good class. The cup was given to a pen of Golden-spangled, belonging to Mr. Newton, of Silsden, near Leeds. Very excellent pens were sent by Messrs. Wood, Walker, Smith, Beldon, and Pickles. The gem of the Exhibition was the "Any other variety class." Mr. Teebay assured the Committee that he had never judged so good a "variety class" in his life. On referring to the prize list the names of many pens which have been prizetakers elsewhere, will be noticed. *Game Bantams* were very poor, and several pens were empty. The Any other variety of *Bantams* were first-rate. The cup for *Bantams* was awarded to Mr. E. Hutton, of Pudsey, whose pen of Black *Bantams* was much admired.

Turkeys, Geese, and Ducks were very good, Mrs. Seamons, of Aylesbury, as usual taking the cup for the best pen of Ducks, with very fine specimens of Aylesbury.

GAME (Black and other Reds).—Cup, O. W. Brierley, Middleton. Second, W. Westall, Baxenden (Brown). Third, J. Fletcher, Stoneclough, Manchester (Black). Highly Commended, J. Robinson, Garstang (Black). Commended, W. James, Bolton Gatehead, Cumberland (Black); M. W. Stobart, Middleton-one-row, Darlington (Black).

GAME (Any other variety).—First, J. Fletcher (Duckwing). Second, H. M. Julian, White Friargate, Hull (Duckwing). Third, J. Fell, Adwalton, Leeds (Duckwing).

DORKINGS (Coloured).—Cup, H. Lingwood, Barking, Needham Market. Second, J. Hill, Burton-on-Trent. Third, D. Parsons, Corden, Preston. Highly Commended, J. Robinson; W. Moorhouse, Reed, near Whalley; D. Parsons; W. Whittaker.

COCHINS (Cinnamon and Buff).—First, E. Smith, Middleton. Second, J. Cunningham, Blackburn, (Cinnamon). Third, J. Nelson, Heaton Mersey, Manchester (Buff). Highly Commended, Messrs. Bowman and Fearon, Whitehaven (Buff). Commended, W. J. Meller, Colwick Rectory, Nottingham (Buff).

COCHINS (Brown and Partridge).—Cup, W. A. G. James, Kirby Lonsdale (Partridge). Second and Third, J. Wood, Woodbank, Heywood (Partridge). **COCHINS** (White).—First and Third, F. W. Zurhorst, Donnybrook, Dublin. Second, W. Dawson, Hopton, Mirfield. Highly Commended, E. Smith.

BRABMA POOTRAS.—Cup and Second, J. H. Pickles, Bridgeroyde, Todmorden (Dark). Third, T. Pomfret, Houghton Lane, Preston (Dark). Highly Commended, G. H. Roberts, Penwortham, Preston, (Dark); W. Hargreaves, Bacup (Dark). Commended, G. H. Roberts (Dark).

SPANISH (Black).—Cup, Messrs. Burch & Boulter, Sheffield. Second, E. Jones, Clifton, Bristol. Third, J. Newton, Silsden, Leeds. Highly Commended, H. Beldon, Goffstock, Bingley; J. Thresh, Bradford. Commended, E. Draper, Northampton.

HAMBURGHS (Golden-pencilled).—First, A. K. Wood, Burneside, Kendal. Second, S. Smith, Northwram, Halifax. Third, H. Beldon. Highly Commended, W. Bee, Goosmargh. Commended, J. Bowe, Carlisle; T. Wareing, Preston.

HAMBURGHS (Silver-pencilled).—First, H. Beldon. Second, J. Walker, Hay-a-park, Knarborough. Third, H. Pickles, jun., Earby, Skipton.

HAMBURGHS (Golden-spangled).—Cup, J. Newton, Silsden, Leeds. Second, J. Walker. Third, A. K. Wood. Highly Commended, J. W. Cannan, Bradford; R. Tate, Leeds. Commended, T. Wareing, Preston; A. K. Wood.

HAMBURGHS (Silver-spangled).—First and Second, A. K. Wood. Third, J. Altham, Baxenden. Highly Commended, H. Beldon. Commended, A. K. Wood.

GAME BANTAMS.—First J. W. Cannan, Bradford. Second, J. Walker. Third, R. & E. Toder, Little Carlton, Newark (Black Reds). Highly Commended, H. Smalley, Stanhill, Acorington.

BANTAMS (Any other variety).—Cup, E. Hutton, Pudsey, Leeds (Black). Second, F. L. Roy, jun., Newthorne, Kelso. Third, J. W. Cannan (Black). Highly Commended, Captain Dwyer, Burnley (White); F. L. Roy, jun., (Sebright).

ANY OTHER VARIETY.—First, H. Beldon (Polands). Second, National Poultry Company, Bromley, Kent (La Flèche). Third, Mrs. A. Whittaker, Viscage, Whalley. Highly Commended, H. Carter, Upperthong, Holmfirth (Black Polands); F. W. Zurhorst (Sultans and La Flèche); M. Leno, Dunstable (Houdan); National Poultry Company (Houdan and Orve Courn); J. Robinson (Black Hamburghs). Commended, H. Beldon (Polands); H. Savile, Rufford Abbey, Ollerton (White Japanese Silkies).

TURKEYS.—First, J. Cunningham, Blackburn. Second, S. H. Stott, Rochdale. Highly Commended, E. Leech, Rochdale; J. Wilson, Woodhouse, Morpeth.

GEES.—First, Mrs. M. Seamons, Aylesbury. Second, S. H. Stott (Toulonge). Highly Commended, E. Leech; H. Savile (Sebastopol White); C. W. Brierley; E. Hutton (Egyptian). Commended, B. Baxter, Skipton (Grey Toulouse).

DUCKS (Aylesbury).—Cup and Third, Mrs. M. Seamons. Second, E. Leech.

DUCKS (Rouen).—First, J. Nelson, Heaton Mersey, Manchester. Second, T. Wareing, Preston. Third, J. Robinson. Commended, C. P. Ackers, Bickershaw, Wigan.

DUCKS (Any other variety).—First, T. C. Harrison, Hull (Pintail).

Second, E. Hutton (Brown Call). Third, T. Wakefield, Newton-le-Willows (Brown Call). Highly Commended, R. Tate (Grey Call); D. Parsons, Cudern (Call).

SINGLE COCKS.

GAME.—Cup and Second, O. W. Brierley (Black Red). Third, N. Grimshaw, High Field, Burnley. Highly Commended, J. S. Butler, Poulton-le-Fyde; J. Fletcher (Black Red). Commended, R. Greenall, junr., Ribchester.

GAME BANTAMS.—First, H. Smalley, Accrington (Black Red). Second, T. Wareing. Third, C. W. Brierley. Commended, S. H. Scott (Duckwing); J. Percival, Birmingham (File).

UTTOXETER POULTRY SHOW.

THIS took place on Friday last. The following is the prize list:—
SPANISH.—First, S. Mills, jun., Walsall. Second, A. O. Worthington, Burton-on-Trent. Highly Commended, W. Tams, Hilderstone, near Stone.

DORKING (Any variety).—First, Mrs. F. S. Arkwright, Derby. Second, Lady Bagot, Blithfield. Highly Commended, Hon. H. W. Fitzwilliam, Wentworth Woodhouse, Rotherham. Chickens.—First, Mrs. F. S. Arkwright. Second, Lady Bagot (Silver-Grey).

COCHIN-CHINA.—First, S. Mills. Second, E. Daniel, Cheadle. Commended, Mrs. P. Wolferston, Tamworth. Chickens.—First, W. S. Bagshaw, Uttoxeter. Second, F. E. Richardson, Bramshall. Highly Commended, Mrs. P. Wolferston. Commended, S. C. Hamerton, Warwick.

GAME (Black or Brown-breasted Reds).—Prize, G. Bagnall, Cheadle. GAME (Any other variety).—Prize, G. Bagnall. Chickens.—First, —Beck, Uttoxeter. Second, G. Bagnall.

HAMBURG (Golden-pencilled).—First, Hon. H. W. Fitzwilliam. Second, A. K. Wood, Burnside, Kendal. Chickens.—First, A. O. Worthington. Second, F. D. Mort, Moss Pit House, near Stafford. Highly Commended, E. Bell.

HAMBURG (Golden-spangled).—First, E. Fynney, Leek. Second, H. Bagshaw. Highly Commended, J. Atkins, jun., Walsall; A. K. Wood. Commended, W. Tatton, Leek. Chickens.—Prize, T. May.

HAMBURG (Silver-pencilled).—First, A. K. Wood. Second, E. Bell, Burton-on-Trent. Highly Commended, H. Richardson, Roycroft.

HAMBURG (Silver-spangled).—Prize, A. K. Wood. BRAHMA FOOTBALL.—First, A. O. Worthington. Second, T. Greatrex, Walsall. Highly Commended, Mrs. P. Wolferston.

BANTAMS (Any variety).—First and Second, E. Charlesworth, Manchester.

DUCKS (Aylesbury).—Prize, H. Chawner, jun., Houndhill. DUCKS (Rouen).—First, C. Whitaker, Uttoxeter. Second, H. Chawner, jun.

GAME.—First, F. E. Richardson. Second, G. Walker, Sandon. Highly Commended, W. A. Rawlins, Uttoxeter. Commended, Mrs. P. Wolferston.

TURKEYS (Cambridge).—First, F. E. Richardson. Second, W. Bagnall. Highly Commended, F. E. Richardson.

GUINEA FOWLS.—First, H. Chawner, jun. Second, W. A. Rawlins. EXTRA CLASS.—First, E. S. Wolferston, Tamworth. Highly Commended, F. E. Richardson (Black East Indian Ducks).

SWEEPSTAKES FOR SINGLE COCKS.

SPANISH.—Prize, E. T. Holden, Walsall. COCHIN-CHINA (Buff).—Prize, F. E. Richardson.

INCUBATORS.

It would be a great service to the poultry world if, through your Journal, any one having used artificial incubators during this season would give an impartial account of the results thereby obtained, and especially as to the strength of the chickens, and how many reared artificially; also the cost of the heat, and the difficulty or otherwise of keeping up the proper temperature.

I keep Spanish fowls, and this year bought several sittings of eggs from noted breeders, and I found, as I anticipated, that the hens broke far too many eggs. If artificial incubation is a real success this would be avoided.

My idea is to hatch artificially, and then place the chickens when pretty strong under hens which have been sitting—say on pot eggs.

I, like many more, would certainly use an incubator if I were satisfied that with a fair share of care the results would be satisfactory; but before purchasing I should very much like to have, through your Journal, some of the results from gentlemen who have tried the various inventions.—A SPANISH BREEDER.

LONG SUTTON POULTRY SHOW.—It will be seen from our advertising columns that this is to take place on the 10th of October. The prizes are liberal, and include eight silver cups of the value of £5 each.

GAPES IN CHICKENS.—I have seen this disease treated as follows by American housewives. The horny tip or scale at the end of the tongue is plucked off by the thumb-nail, and a wing feather, pulled from the chicken, is thrust as a seton through the skin of the neck, and so remains until it wears off.—D. J.

COCK PHEASANT SITTING.

A FRIEND of mine has a cock Silver Pheasant two years old, and one Silver hen one year old; they have been running with some Game fowls, and a nest was made in the shrubbery, and seven eggs laid, which were scattered about several feet from the nest for fourteen or twenty days in the hot sun. To his great surprise one day he saw the cock Pheasant collecting the eggs to the nest. The cock bird sat on them, and on Wednesday, July 25th, brought off three chickens, all doing well. No doubt more eggs would have been hatched, had they not been exposed so long in the sun. The father is as proud as any father of a family. Is this a common occurrence with Silver Pheasants?—AFFECTION.

[Your account is most interesting. We once met with a similar case. For a long time it was denied that a Silver hen would lay good eggs the first season, but two of ours did so last year.]

LIGURIAN BEES.

"Is the Ligurian really more prolific than the common bee?" Such is the inquiry of one of your correspondents in a recent Number. The question is fair and natural, and I have no doubt is often reiterated by many of your readers. That the Ligurian bee is said to possess this and other qualities which render it superior to the common species, is evident from the reported results of its cultivation by scientific apirians both in Germany and England. Admitting this, however, the question still recurs, Can the deductions of scientific observers be depended upon by those who aim chiefly at practical results, and keep bees only for profit? Undoubtedly so, or science and empiricism would become synonymous. True science takes cognisance of all circumstances, and investigates without prejudice or partiality. The establishment of a theory is one thing, that of fact and proof another. In theories it is very easy for a man to impose upon himself; in comparative experiments, fairly and honestly conducted, with the exercise of ordinary observing and reasoning faculties, conclusions in time become irresistible, and proof rests upon an irrefragable basis.

The experiments alluded to in my former letter were undertaken neither to disparage our old friend the black bee, nor to exalt the asserted superior qualities of the Ligurian, but simply to ascertain for myself, and in my own way, whether there is any difference between them, and if so, in what that difference consists. My experiments were conducted on the *ceteris paribus* principle (without which I should not have been satisfied with results), and I made them as fairly and as fully comparative as I could. I was influenced by no prejudice, and my aim was simply the satisfactory establishment or disproof of an asserted fact. With the results, as given in a former Number of this Journal, your readers are already acquainted. I will briefly recapitulate my statistics of progress, and append one or two additional facts of an interesting character, which place in a still stronger light the fecundity of the Ligurian bee.

I began the season with six stocks, two of them so light at midwinter that I never expected them to survive until the floral season. However, I watched them carefully, and when the increase of temperature awoke them into activity, I gave them a liberal supply of strong syrup slightly salted. Under this treatment they rallied, but their numbers had diminished to such an extent that I never expected them to swarm; each of these, however, has thrown off three swarms. For brevity's sake I will call my six stock hives A B C D E F.

Date of First Swarm.	Second Swarm.	Third Swarm.
A. May 27th, A A ..	June 8th	I suspect that the third swarms from these hives, which were both strong, took flight very early in the morning and were lost.
B. June 8th	June 15th	
C. June 8th, C C ..	June 19th	June 21st.
D. June 8th	June 19th	June 21st.
E. June 8th	June 20th	June 22nd.
F. June 23rd	June 30th	July 7th.

MAIDEN SWARMS.
C C. June 23rd

July 9th

A A. June 25th

July 8th

The results, then, are these:—My six stocks have yielded me, without taking into account the two third swarms which I am fully convinced were lost, twenty-one swarms, and leave me in possession at the end of the season of twenty-seven stocks altogether. I have occasionally, although rarely, had from first-rate stocks of the common bee three swarms, and a

maiden one from the first of these; but maiden second and third swarms are entirely new to me. So far as I can judge, and I endeavour to observe as accurately as I can, what in this respect seems exceptional in the case of common bees, is normal in the case of Ligurians.

I may observe, in passing, that I had kept the black species for many years, and last season my hives yielded me about 5 cwt. of honey. I have a gardener who can hive the bees and attend to the apiary during my absence, but, as a rule, they are under my sole management, and I mostly manage to be at home in the busy season. I like to work as well as to observe; but, alas! "The rector's bees," as my poor people say, "generally swarm on a Sabbath," and twice on the same Sunday (immediately before and after morning service), have I experienced what I should call, on other days, the pleasurable excitement of having two large swarms. However, I have never lost a single swarm from the unsabbatical habits of my little busy workers, and, with the exercise of a little watchfulness, hope I never shall. Some of my neighbours are less fortunate, for twice during the last month have my services been interrupted, and my congregation perturbed, by the intrusion of a swarm of bees just before morning prayer. Fortunately, however, beyond the droning which was very distinctly sustained during the whole service, and a nervous movement occasionally amongst the occupants of one or two seats near the window, through which the imprisoned bees were vainly struggling to escape, when some stray intruders threatened too dangerous a proximity, our quiet village worship was conducted the same as usual. These swarms effected their entrance into the roof of the north aisle through a small opening, which could only have been discovered by a previous reconnoitre. I am convinced by this, and several other analogous facts which have come under my observation during the last three or four years, that swarming is nothing more than a general muster of emigrants previous to their departure in one compact phalanx, to a new habitation fixed upon, and made ready, when necessary, at least some days before their leaving the old hive.

One remark on the letter of your correspondent from Kildare. There is something so unusual in the size of his third swarm, which came out on the 8th of June, that I am inclined to ask him whether he is quite sure that no considerable portion of this returned to the parent hive during the process of swarming? This, with me, has not unfrequently happened, both with second and third swarms, and on two occasions this summer I have had the latter leave their hive and return to it no fewer than three times in one day.

I daresay many of your readers are aware that after-swarms are sometimes, perhaps more frequently than not, headed by three or four queens. With my Ligurians this has been almost invariably the case this summer, and the knowledge of this fact has enabled me to capture several queens, and to place them at the head of swarms of the purity of which I might have been in some doubt. Sometimes I have had three or four clusters enclosing as many queens, and in this case nothing is easier than to treat them as the heads of distinct establishments, and hive them separately. As a rule, however, there is but one cluster, and around this an experienced eye will detect, often—for instance, on the leaves of the tree on which the swarm may have alighted—thirty or forty bees congregated together, indisposed, apparently, to increase their numbers, and yet disinclined to separate and join the main body. Careful examination of these little nuclei will almost invariably disclose a queen, and nothing is easier than, with the aid of a wine-glass and a piece of stiff cardboard, to capture her and her body-guard. It requires very little dexterity to accomplish this feat, and in this simple manner I one morning secured three queens. One of these, of remarkable size and beauty, I utilised in this way, keeping her and about a dozen of her companions on the red currant leaf on which they settled, for three or four days in a wine-glass with a piece of honeycomb, until the opportunity arrived.

At last this was presented by the departure of a third swarm, the largest I ever saw, from a hive in a rather exposed situation. The morning was windy and occasionally showery, and altogether most unpropitious. The bees no sooner took wing than they were scattered on the ground and trees around, on an area of some three or four hundred square yards. The queen, as I expected, did not accompany them, and now was the time for my experiment. I waited until the scattered bees began to grow impatient and unsettled, and some few of them attempted to take flight homewards. I placed my imprisoned queen and her companions on a kind of extemporised stand

made of small branches of currant tree, in the upper part of a common straw hive; held it immediately over some trees on which the greater portion of the bees had alighted, and, one by one, shook these sharply so as to induce the bees to take wing. They did so, and in rising at once discovered the queen. Then arose the call-hum which the anxious apiarian under such circumstances is delighted to hear, and the whole swarm rose up, one by one, acknowledging the sovereignty of their alien queen. I was determined to increase their numbers as I knew that the hive was populous, and the whole of the bees that could well be spared had not come out. So as soon as the swarm had quietly settled in its new abode, I removed the old stock from the stand and replaced it with the new swarm, taking the former into a room lighted with only one small window which was closed; on gently tapping the hive, still attached to its bottom board, the bees became irate, and immediately rushed out of the hive to the narrow light. Repeating this operation at intervals of two or three minutes, and opening the window to set its bewildered occupants at liberty before resuming the tapping process, I managed to collect in the new hive one of the largest swarms I ever possessed, the liberated bees at once returning to the old familiar spot. I kept the new hive where I had placed it, and removed the other to a station at a considerable distance. Both hives are doing well, and with their present teeming population bid fair to make first-rate stocks.

I must conclude this discursive paper with an account of a calamity which happened to one of my heaviest hives last Sunday morning (July 29th). Just as I had entered my dressing-room, word was sent up to me by my gardener that one of my hives had fallen over in consequence of the ground being saturated with rain, and that the combs were all broken, and the honey and bees mixed together in one homogeneous mass? What was to be done? And all this on a Sunday morning too! I remembered that one of my hives had been placed near a new wall, erected in the dry weather, and that the earth had not been well rammed around the foundations. One of the legs of my stand had sunk in this, and the "centre of gravity" soon found its way over "the base." To save the stock was impossible, and to approach it, dangerous. And now came the question, How can I take the honey? The thought struck me in a moment, that the only immediately available plan was to pick up the hive and plunge it and the whole of its contents into a vessel of water, deep enough to cover all, and to leave things *in statu quo* until my clerical duties were completed. The idea proved eminently practical, and after breaking up the combs and washing them in the water, the debris of these and their constructors were separated from the syrup by means of a strainer, leaving me to ascertain the value of this by means of a saccharometer. It happened fortunately, that we were just on the point of commencing our annual brewing of elder-flower wine; the required quantities of sugar and water were duly added, and the wine is now made and on the point of being stored away in the barrel for winter use.—WILLIAM LAW, *Marston Trussell Rectory*.

In my communication at page 115, there is a mistake in the date of the first swarming from the two stocks, which, if uncorrected, would lead to the erroneous notion that the queens of two united swarms could remain peaceably together for more than a week. Both the swarms alluded to took place on the 7th of June (not 1st), their union to the original Ligurian stock being effected that night, and the huge swarm coming out again on the 9th, at 11 a.m., so that these two queens were in the same hive only thirty-six hours. It was, doubtless, their proximity to one another becoming known then that occasioned the second issue.

I can also fully bear my testimony as to the greater fecundity of the Ligurian queen to that of the common bee. The bees of the only Ligurian stock I possess still (8th of August), keep up their numbers, and maintain their activity to a much greater extent than any of the best of my other stocks, and during the last three weeks of very indifferent weather have worked vigorously, although I am afraid to little purpose, so far as honey-collecting is concerned; but the number of foragers returning with pellets of farina on their legs is still most remarkable.

My advice to all owners of hives this year is, Be cautious in depriving them of honey, for the season has been scarcely an average, or you will lose them during the ensuing winter.—A BLACKHEATH'N.

A DETHRONED QUEEN.

The old queen in my six-frame observatory hive has been quietly dethroned, and a youthful sovereign welcomed as her successor; and as the proceedings were carried on of the bees' own free will, without any intermeddling on my part, I will narrate what came under my observation; and when I state that for nine days the aged and youthful queens, without any manifestations of antipathy, paced the combs, I think even close observers may find somewhat to interest them in the details.

I observed on the 14th of July a sealed queen cell in the above-mentioned hive; it struck me at the time as a rather singular circumstance, no swarms being contemplated, as a large amount of space in the hive remained unoccupied by comb or bees. As the royal brood approached maturity I looked for symptoms of antipathy on the part of the queen, but no excitement was manifested either by her or her attendants. On the 21st the cell was opened, and as I watched the queen performing the functions of the hive, and an examination of the exterior of the hive failing to reveal a discarded princess, I presumed the effort to raise another queen had been abortive. On the 22nd, however, I was surprised to see a beautiful young queen attended by a delighted and attentive circle, and upon the same comb my old queen also surrounded by a portion of her subjects. This state of affairs of course afforded a fine opportunity for installing a youthful sovereign in lieu of the three-years-old queen, but as the interest in watching the hive would be diminished I left them entirely to their own devices. Affairs remained in much the same position during the next two or three days, when marked inattention was evident towards the old queen, indeed one or two discontented bees even pulled her by a leg or wing; and this soon was followed by an entire disregard of her presence as she wandered uneasily from place to place, not on the comb so much as over and through the clustering bees; at the same time an increased, nay, energetic attention was paid the youthful queen, who, I had reasons to believe, had made a trip and safely returned to her hive. This was verified on the 29th, as she was then laying. I need not say how anxiously I looked for a battle royal, but in this was disappointed, for although I saw the two queens in close proximity they manifested no enmity towards one another. Upon the 29th the old queen was brought out, but whether she had been encased, or whether the two had met in deadly embrace I cannot say. These two queens having lived together for nine days, and the remarkable instinct and forethought in the bees in raising a young queen to take the place of the old one, and then quietly disposing of her, has been, perhaps, as interesting a circumstance in the economy of the bee as ever came under my observation during a period of bee-keeping of about twenty-three years.—*GEORGE FOX, Kingsbridge.*

TRANSFERRING BEES.

Four years ago a swarm of bees settled on a fence in my garden. I was wholly unprepared for such an unexpected visit, and had to put them in a large box 17 inches in length, 12 inches in height, by 10 in width. They have swarmed but twice in the four years, and they are now so numerous that they cannot find room in the box, and, after filling a glass super, have taken possession of a space between the top of the box and a sack suspended 6 inches above it for the purpose of shade and to prevent the dashing rains beating into the entrance.

I know very little about bees, but enough to be aware that some better accommodation ought to be afforded. I have, therefore, had a new box hive made for them, but am wholly ignorant as to how and when I ought to set about getting them into it. I have two acres of clover just coming into flower close to the hive, and were they in their new quarters, this, I think, would enable them to make some provision for the winter.—*H. S.*

[It is too late in the season for bees to make provision for the winter if left unassisted in an empty hive, although it is quite possible to transfer them to a new domicile filled with either bars or frames, one or the other of which, however, is indispensable. Should you determine on doing this, our replies to "G. J." and John J. Smith, in pages 118 and 115, may perhaps sufficiently enlighten you. If not, write us again, stating upon what points you require information, and we will endeavour to supply it.]

THE HONEY HARVEST IN OXFORDSHIRE.—A correspondent, who writes from the neighbourhood of Banbury, informs us

that "It has been an unusually favourable summer for bees in Oxfordshire—a more abundant blossom of Dutch clover in the pastures than has been known for many years. Many hives have attained heavy weights."

HIVING BEES SETTLED IN A FLUE.—Your correspondent "W. P." (page 95), will find the bees which have settled in the chimney may be hived as follows. Place a prepared hive securely at the top of the flue, and surround it with a thick blanket, so as to close every aperture, then fix a bell at the bottom of the flue (all this must be done at night when the bees are resting within), and set it ringing. The bees will wake up with the din, and rise gradually into the hive. This will be traced by the buzzing. When they have all risen, stop the bell, and they will settle in the hive. After giving them time to become comfortable, the hive may be carefully removed to its stand, which should be as remote as possible from the flue.—*D. J.*

OUR LETTER BOX.

BEES NOT HATCHING.—*DORRINO'S TOES (Eboracum).*—You are singularly unfortunate, but the same might not happen again in twenty years. We can give no guess at the cause of failure in hatching, but we know that chickens will sometimes come; not, however, so frequently as formerly. You are right in thinking the five toes indispensable. The birds you have hatched are useless for stock or exhibition, unless you use them only for the table. It is more than likely these four-toed birds would breed five-toed chickens; but it is running a risk to use them.

CROSS-BRED COCHINS (Idem).—The crosses of Cochins fowls are legion in number, and curious in description. Thus, the cross between the White and Buff is said to have produced the Blacks that were in vogue some years ago; but although the pullets were black the cocks had white feathers, and the under feathers were all white. We ourselves, from good and apparently pure Buffs, have bred the Emu fowls, covered with buff hair instead of feathers. Many of the Buffs are heavily crossed with the original Silver Cinnamon Cochins of Dorsetshire. They sported sometimes, and produced white birds with yellow stripes and spots. This would account for the White. The pencillings of the hackle and the dark tail would easily come from the Dorking. The first is common, almost general, in Dorking hens, and the last a desideratum in the cocks. Both are imperative in the Silver-Grey class. Dorkings are so mixed in colour, that any can be had from them, and indeed may be expected.

HAMBURGERS RUNNING WITH A GAME COCK (Silver-splashed).—If you take away the cock you will breed pure chickens.

PREVENTION OF DISEASE IN PIGEONS (Hewitt).—We have heard of no disease among Pigeons. Have the lofts or houses thoroughly cleaned and lime-whited. Let the birds have pure water frequently changed, and rock salt always within reach. Change their food.

FEEDING CHICKENS (P. H. G.).—For the first fortnight chickens are best kept upon alternate feedings of Indian meal, bread-crumbs, and eggs boiled hard, chopped fine, and mixed with a little crushed hempseed. The Indian meal should be only so far moistened as still to remain crumbly. After the first fortnight, and until large enough to feed with the older fowls, give them daily, in addition, a feed or two of either bruised wheat, or bruised grits. From the very first days of their life continue, without fail, to give them daily fresh green food. Cabbage and lettuce leaves, and mowings of grass are best. Remember, above all things, that a little food given often—every two hours is not too frequently—is the chief rule for chicken-rearing.

BEES HIVE (G. Sinclair).—The identical hive is figured, and its management (also identical), described in the third, fourth, fifth, and sixth editions of Taylor's Manual, under the name of the "Improved White's Hive." So also is the mode of working two common hives side by side in the exact manner figured and described by you, with the exception of a slight point of detail, in which we think Mr. Taylor has the advantage. This latter is also figured and described in "A Short and Simple Letter to Cottagers, from a Bee-keeper" (by the Rev. W. C. Cotton), which is published at a cheap rate by the Society for Promoting Christian Knowledge, and which we should fancy would meet your views with regard to a cottager's bee-book. The practical objections to the "transposing system" are the instinct which leads the queen to deposit her eggs near the entrance, causing the added box to become the main if not the only seat of breeding; so that if it be taken away the whole, or nearly the whole, of the brood is destroyed, and comparatively little honey obtained, and that much contaminated by pollen, &c.; whilst if the original hive be removed it is filled with old comb, the contents of which are of little value, and the remaining box or hive is liable to contain so large a proportion of drone-comb that the colony can never again become prosperous.

CANARY MULES BREEDING.—We have a communication for "W. B. H." which we will forward if he will send his address.

POULTRY MARKET.—August 13.

TRADE is almost extinct, and there is not sale for all the poultry that comes to market.

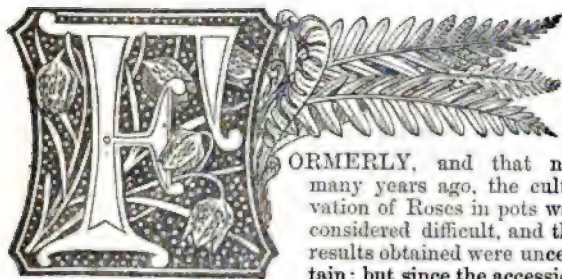
	s.	d.	s.	d.		s.	d.	s.	d.
Large Fowls.....	3	0	2	6	Guinea Fowls.....	0	0	0	0
Smaller do.....	1	9	2	0	Partridges.....	0	6	0	0
Fowls.....	0	0	0	0	Hares.....	0	6	0	0
Chickens.....	1	8	1	6	Rabbits.....	1	4	1	5
Geese.....	5	6	6	0	Wild do.....	0	8	0	9
Ducklings.....	1	9	2	0	Pigeons.....	0	8	0	9

WEEKLY CALENDAR.

Day of Month.	Day of Week.	AUGUST 21—27, 1886.	Average Temperature near London.			Rain in last 30 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.			
21	Tu	Sun's declination 19° 7' N.	72.3	49.4	60.8	14	56	af 4	10	af 7	1	af 4	58	af 0	11	3 58	233
22	W	<i>Bacelia diosmifolia</i> .	71.5	49.8	60.1	16	53	4	8	7	45	4	58	0	12	2 43	234
23	Th	<i>Bacelia tenuifolia</i> .	71.9	48.8	60.4	19	0	5	6	7	24	5	56	1	13	2 28	235
24	F	St. BARTHOLOMEW.	71.4	47.7	59.6	16	1	5	4	7	0	6	59	2	14	2 13	236
25	S	<i>Beatonia atrata</i> .	71.7	49.9	60.8	16	3	5	1	7	29	6	7	4	15	1 56	237
26	Su	18 SUNDAY AFTER TRINITY.	72.5	48.3	60.4	12	4	5	58	6	0	7	19	5	16	1 40	238
27	M	<i>Billiardiera scandens</i> .	73.3	49.3	61.3	12	6	5	57	6	27	7	24	6	17	1 23	239

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 72.1°; and its night temperature 49.0°. The greatest heat was 80°, on the 25th, 1859; and the lowest cold 31°, on the 26th, 1861. The greatest fall of rain was 1.83 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

CULTURE OF ROSES IN POTS.



FORMERLY, and that not many years ago, the cultivation of Roses in pots was considered difficult, and the results obtained were uncertain; but since the accession

of varieties of more tractable and free-blooming habit, Roses at a season when their beauties cannot be enjoyed out of doors have ceased to be the greatest of floral luxuries. They are no longer confined to large gardens, but are also successfully produced in small establishments, and in some of these from want of space, as well as for other reasons, large numbers of Roses are grown in pots to be bloomed either with or without artificial heat. A few hints on the cultivation of Roses in pots having been requested by some correspondents, I venture to offer the following remarks on the subject, based on my own experience, and arranged under three heads—viz., 1st, Forcing; 2nd, Roses for the greenhouse; 3rd, Roses in pots out of doors.

1st, FORCING.—The best Roses for this purpose are those which have been established a year in pots, particularly if required to bloom early—say in January. I shall presume that the plants for early bloom have been obtained in May. They should, after they have recovered from the journey, be shifted from the small pots in which they are usually received into pots 6 inches in diameter, draining these to one-fourth their depth with broken pots, with a little of the rougher parts of the compost over the drainage. I have found no better compost for pot Roses than that formed of turf from a pasture, the soil of which is rather strong hazel or yellow loam. The turf having been pared off 2 inches thick, and laid up in alternate layers with sheep-droppings, or where the latter cannot be procured, with horse-droppings instead, should be allowed to lie six months and then be turned, and in three more again turned. At the end of twelve months an excellent compost will be the result. Previous to use it should be chopped with a spade, and made somewhat fine, but not sifted. When the turf is of a light nature it is well to mix it with cowdung in preference to horse-manure, and with neither till it is a year old at least, using equal quantities of loam and thoroughly-rotted manure of whatever kind. About one-sixth of sharp sand may be added to make the soil porous. To keep worms out of the pots a little soot may be sprinkled over the pieces of turf placed on the drainage.

In potting, turn the plants out of the small pots, pick away the drainage carefully, press the balls gently so as to loosen them, and place the plant with its stem in the centre of the pot; then fill in the compost (which should be in a medium condition as regards moisture), round the ball, and so that the roots may be covered about an inch. Press

it well, give a good watering, and set the pots on slates or a concrete floor in an open and sunny situation, filling the intervals between the pots with tan or sawdust up to the rims.

In this situation the plants are to remain through the summer, being well supplied with water, and frequently sprinkled overhead or syringed. The very weak shoots should be removed, and any showing for bloom are to have the buds pinched out. The very long shoots must be cut back to eight joints if they make more than twelve, otherwise let them alone. Stopping the shoots should not be practised until the middle of August. The pots should be occasionally examined to see that the roots do not make their way through the holes at the bottom; the object of placing the pots on slates is to prevent this as much as possible.

Early in September, if all has gone well, the plants will be strong, and have filled their pots with roots. This being the case, shift them at once into eight-inch pots in the same compost as before, adding, however, one-sixth charcoal, with the dust sifted out, in pieces from the size of a pea to that of a hazel nut, and this with the sand may form one-fourth of the compost. Drain the pots well, and press the soil gently round the ball, which should be loosened a little so as to disentangle the roots. If loam from rotted turves cannot be procured, then the compost may be formed of two-thirds loam and one-third leaf mould, or well-rotted manure, adding about one-fourth of river or sharp sand and pieces of charcoal. After potting, give a good watering, and place the pots on the slates, filling in the spaces between them with sawdust or spent tan.

In a month after potting the pots will have become full of roots: the plants having the strongest and best-matured wood should then be cut in to from four to six eyes, more or less according to their strength. It should be borne in mind that the weak are to be cut in most, and the strongest shoots the least. The weak shoots may be cut in to two or three eyes, those of medium strength to four eyes, and the strong to from four to six eyes. Now, if possible, protect the shoots from wet by placing them in an open shed, and keep them rather dry for a fortnight or three weeks. If pruned in the second week in October they may be thus rested until the first week in November, then they will soon break well if the pots be plunged to the rim in a bed of tan or other fermenting material, with a heat of not more than 70°, in a house with a night temperature of 45°. Here they should be sprinkled through a syringe with water morning and evening.

When the eyes have broken, and the shoots are an inch or so in length, the night temperature may be raised to 50°, and that is as high as it need be for forcing Roses until the buds show colour, then it may be increased to 55°. When in bloom a temperature of 50° from fire heat is sufficiently high. The plants should be kept near the glass, and the roof must not be shaded by creepers or otherwise. Avoid a high temperature from fire heat by night; in fact, it would be well to let the fire go out at night in mild weather, lighting it in the morning, and

working on so that the highest temperature may be attained by one or two o'clock in the afternoon. On the temperatures above named allow a rise of 5° on dull days, of 10° on those which are cloudy with clear intervals, and of 15° on sunny days. The art of forcing Roses is to afford them abundance of air and plenty of heat by day, and a comparatively low night temperature, shutting up in good time after admitting air early, so as to let in, catch, and retain as much sun heat and fresh air as possible. By day the temperature from fire heat should not exceed 70°. The sprinkling overhead may take place from 9 to 10 A.M., and again at the time of shutting up the house; but in dull, foggy weather only the morning syringing will be necessary.

Keep the plants as far from the heating apparatus as possible, and above all avoid cold currents of air. Let the waterings be copious after growth has become active; but, on the one hand, do not over-water, and on the other afford a supply as soon as the state of the soil shows that water is necessary; at the same time the soil should never be allowed to become so dry as to affect the foliage. When the buds are formed the pots should be gradually withdrawn from the hotbed, partly to prevent the roots striking into the fermenting materials, and partly to avoid a check when the bloom is nearer expansion. They may after this be set on a hard bottom, as flags, boards, or slates, and have liquid manure once or twice a-week; but not strong. It may consist of 1 lb. of guano dissolved in twenty gallons of soft water.

When the blooms are about half expanded, or hardly so much, the plants should be removed to a cooler house, from 45° to 50° by night. I have never observed any check result from doing this, and the colour of the flowers is rendered deeper and brighter, and their perfume more powerful, whilst the blooming period is likewise prolonged. When the buds are far advanced towards expansion syringing should be discontinued, and the paths sprinkled instead; also afford the plants ample room, abundance of air when the weather permits, and all the light possible. After blooming they should be gradually hardened off, and not placed out of doors until danger from frost is past.

To keep up a succession of bloom a number of plants should be pruned a month later than the first lot, say the first in the first week in October, the second in November, and the third in December, introducing them into the forcing-house in November, December, and January respectively, and onwards up to March; but of these successions I shall say more hereafter, as I propose to treat of them as not established a year in pots, though they are as well if not better in that way, either for early or later-forced bloom.

The most suitable classes for early forcing are the Provence, which I value most of all, probably from having commenced forcing Roses with it, the Hybrid Perpetuals, and the Teas.—G. ABBEY.

(To be continued.)

LAXTON'S EARLY PROLIFIC PEA.

I PERCEIVE in your Journal for August 14th, page 120, that I am not the only one who is disappointed in this Pea. Some time before ordering my seeds I received a very flattering account of it, so much so, that I determined to try a quart, notwithstanding the high price at which it was sold; and I obtained it, with other sorts named below, from Messrs. Veitch, of Chelsea. There can be no mistake about its being the right sort, as it was under Messrs. Carter's seal. I was very much disappointed with it, for my other sorts have been extra good. These were Sutton's Ringleader, first crop June 1st; second crop, Eley's Essex Rival, a very fine Pea; third, Dickson's Favourite, an enormous cropper, many of the pods having eleven and twelve fine peas in the pod; fourth, Veitch's Perfection, which was perfection indeed both in crop and flavour; in fact, all points considered, it was the best Pea grown here this season, which is saying much, as I have tried about fifteen sorts this year. Laxton's Early was sown to come in after Dickson's Favourite—namely, in the last week in June, and the first in July, a season at which I think all sorts of Peas ought to do well, having the month of May to grow in, and June to bloom and fill out their pods. When fit to gather it was not equal to Princess Royal growing by its side, and one or two others which came in soon afterwards, so that I think it better to leave these high-priced articles alone, and keep to others which are cheaper, and equally good. The soil here is a

clay loam resting on brick clay; in lighter soils the result might be very different, as I have found many varieties which succeed well in one kind of soil do very badly in another. The late Peas here this season are very inferior, on account of dry weather, and the very rough winds which we have had, along with great changes in the temperature.—J. MAX.

IVY.

IVY is a truly British plant, and seems interwoven with our history from its earliest periods. Less honoured than the Oak, and less gloomy in its associations than the Yew, it is more immediately connected with our homes than either of these. Its adaptability to all situations and to the climate of all parts of the country is likewise a great recommendation to favour. In one place we see it covering the ground with a dense carpet, in another ascending the loftiest tree, and in both maintaining itself against all intruders; it frequently mantles our dwellings, and, by the natural armour which it affords, those no longer tenanted are to a great extent preserved from the attacks of time. To it the venerable appearance of many a ruin is as much due as to the masonry; to it many a rocky eminence owes much of its beauty; and an old tree acquires a new interest when its trunk and limbs become clothed in the evergreen drapery of the Ivy. I must now proceed to the details of its culture and uses, and endeavour to name a few of the many purposes for which it may be employed.

As regards culture, the Ivy is by no means particular, for it will live—nay, thrive, in situations unfavourable to most plants, and differing widely from each other; but in general it succeeds best in a dry soil containing plenty of stones. I may here observe, by way of parenthesis, that the utility of stones in land is not sufficiently recognised. Ivy thrives amongst such materials, but it is often enough found growing freely on clayey soils; and, in fact, it is common to plant it in any situation where it is wanted without any preparation whatever. Shade, however, seems to encourage its growth, and it will usually do better against the north than the south side of a house. Moist shady woods also not unfrequently abound in Ivy. I believe that it is likewise plentiful in soils containing a good proportion of calcareous matter. It will, however, do well in some soils of an opposite nature; and, indeed, it is so obedient to the requirements of the cultivator that it may be made to succeed almost anywhere, and that with a very small space for its roots to run in. It will, in fact, struggle for a living in ground closely matted with the roots of plants.

The propagation of the Ivy is exceedingly easy and rapid. Seed is abundantly produced, and it germinates freely enough—too much so in some cases. Plants may also be raised in abundance from cuttings, or rather slips, put into the ground almost at any time, but certainly the autumn is the best period for doing so; while if valuable kinds be trained over the ground and pegged down, roots will be emitted at each joint. In this case, if the shoots be cut through some time before the plants are removed, the latter will be much improved in strength. These modes will generally be sufficient to increase this plant to any reasonable extent. Autumn I believe to be the best time to plant Ivy, but I have met with good success by planting in May, while March is perhaps the worst period; but plants in pots may be turned out at any time, and where only a few are to be planted it is best to obtain such, as they become more speedily established, and commence growing sooner.

The variegated Ivies would be the better of fresh accessions, for those which we now have certainly fall short of what I expect we shall hereafter possess. The best gold, silver-edged, or blotched Ivy, does not come up to varieties of the Holly similarly variegated, there being a want of clearness in the colouring of all that I have seen yet, which places them much below the standard, or what ought to be the standard. I hope that when we shall have Ivies as good in colour as the Hollies referred to, our Golden and Silver Chain Geraniums will be less wanted in the parterre. There are, besides, other forms of Ivy, differing considerably from the common or wild variety; one with heart-shaped leaves is much admired, though not more so than that called *Hedera helix maculata*. There are many other varieties, some having almost a Willow leaf, while others with palmate foliage vary much in the obtuseness or acuteness of the leaf. Sturdiness of growth is another feature not common in every variety, and some kinds seem to lose the creeping character entirely, and form evergreen

bushes of great beauty; one plant not far from where I am now writing is upwards of twenty years old, healthy, and vigorous, and although it has scarcely ever been touched with the knife, is now not more than 4 feet high, but as much through. The Ivies, however, are naturally climbers, and as such they are generally planted. The varieties are often the result of sports, and have a strong tendency to return to the normal state, especially some of the variegated kinds. Nearly all the variations in size of leaf and habit of growth may often be seen in woods where the common wild Ivy, with small leaves of a grey colour, having shining veins of white, may be met with along with others of larger and greener foliage in every gradation up to the robust Irish Ivy, which, I may remark, is the most useful kind we have, and that most generally cultivated. I am not positive that it is the best climber, but its rapid growth, and its property of forming fresh leaves when cut-in, render it suitable to most places where it is subjected to some degree of management. Even this Ivy presents a difference in its foliage, leaves broadly palmate being met with at one time, while others almost lanceolate or ovate are formed higher up the plant, and the climbing shoot becomes a short, dense, bushy-headed one when it can find nothing to cling to, or where the plant is stunted in its growth, as may be seen where an aged tree is covered with Ivy, and the laterals thrown out can find nowhere else to travel. The Ivies form picturesque, I may almost say grotesque objects, where they cover a curious-headed pollard, and the most symmetrically-trained pyramidal or conical Azalea has more than its equal in some large Fir trees that I have seen covered with this plant.

With regard to trimming the Ivy, I by no means agree with some instructions lately given in this paper as to the proper time for doing so in the south and more favoured parts of England, though the case may be different in the north, where the plant is less robust. The plan we adopt here is to cut-in closely the Ivy covering dwelling-houses in the beginning of August, very often scarcely leaving a leaf, and yet the whole plant is again densely covered with foliage five or six weeks afterwards; and the season being then too far gone, the growth is confined to leaves, which, with us, become firm and established before winter, so as to sustain no injury from frosts. Thus the Ivy looks trim and neat up to the following June, when the summer shoots begin to elongate. It will be seen that there is with this plan a period of fully eight or nine months in which the plant looks as trim and uniform as the wall against which it clings, while the remainder of the time may be divided about equally between the period of the shoots growing in early summer and that of the formation of foliage in the latter part of the season. Now, let us see what are the effects of cutting Ivy in March. The formation of fresh foliage or shoots will then take about the same time as in the former case, while the period during which the Ivy forms a close carpet is very short indeed. Shoots of some length are formed, and these, remaining unshortened until the following March, are often in the way when a trim and symmetrical appearance ought to prevail. Observe, I by no means advise the trimming of Ivy in August when there is a danger of the leaves not being produced sufficiently early to withstand the autumn and winter frosts; but when the operation can be performed at that time with safety, let it be done then.

As to the propriety of covering a dwelling-house with Ivy, there are various opinions, many contending that appearance is the only recommendation it has; but to trees it is very injurious; many an Oak has been strangled in its embraces, and Pinuses suffer still more. Within a very few yards of where I write, a Spruce Fir upwards of 70 feet high has been for some years struggling for an existence, which is gradually drawing to a close. A few small patches of green on the tips of some of its branches are all the signs of life which it exhibits. The tree may survive one more year, while the mantle of Ivy triumphantly takes possession of the whole of the trunk; the Ivy branches, dense as Box, protrude in all directions, forming an elongated cone of greater symmetry than ever the Spruce did in its best days. The Ivy has not taken possession of any of the dead branches, although many of them are from 4 to 6 inches in diameter at their base; but the creeper apparently disdains to trust them as supports, and confines itself to the trunk. This support, however, will also have an end, for we have lost several trees, which had become quite denuded of branches, and only presented a beautifully tapering Ivy-covered spire. The trunk of the tree, when deprived of its vitality, can no longer resist decay, and when it becomes too weak to

withstand a high wind, its load brings the whole down. Even Spruce and Larch trees containing from 50 to 100 or more cubic feet of timber, are not proof against the elements, and the downfall of the structure is only a matter of time. Sometimes such pillars will be blown down by the root, and sometimes broken off in the middle. One which suffered in the latter way was about 18 inches in diameter at the place where broken, and was not far advanced in decay. Such casualties cannot well be prevented except by bracing up the dead stem, like the mast of a ship, but doing so would mar the effect.—J. ROBSON.

THE ROSES OF 1865.

I AM sure Mr. Kent is a kind-hearted man. I but once had the pleasure of meeting him, and so he seemed—just the sort of man one would like to see governor of a gaol or director of a reformatory. You would be quite certain that the people would be well looked after, their little foibles overlooked, and every extenuating circumstance possible brought forward in their favour; for so he seems to have acted in his opinions of the new Roses of 1865. He has passed over defects which will be fatal to some and damaging to others. He has kept others which may linger for a year or two in the lists, and then will disappear, save in the collections of those who care more for variety of sorts than for quality; and he has exhibited that amiability which rather inclines one to say a good word on behalf of what is really good but not super-excellent. "Ah, poor thing! he (or she) has his faults, but with all that he is a good fellow!" Now, on the other hand, a critic must be of sterner stuff, something between a relieving officer and a Yankee skipper—two of the hardest and corniest specimens of human nature I know. He must be on the lookout for defects, and not for beauties. He must have a large stock of "buts" in his vocabulary, and he must be prepared to use them. It is the misfortune of such that they miss much pleasure; although, perhaps, their appreciation of excellence is more enjoyable to them than to others, yet is their enjoyment continually marred by seeing what others see not, and by having magnifying-glasses on for every defect. One goes into raptures over a new flower, and while he is having his enjoyment, you, alas! see a wrongness of shape, a deficiency of colour which has escaped the other. I have said all this, inasmuch as my judgment on the Roses of 1866 differs materially from that of Mr. Kent; and I hope he will pardon me for saying I think he is too lenient. I may be the opposite, but I shall endeavour to clear myself from such a charge by giving my reasons.

There were sent out by the French raisers in 1865 (I purposely omit English Roses), or rather in the autumn of 1864, nine Bourbons, two Teas, seventy-five Hybrid Perpetuals, two Hybrid Noisettes, and four Perpetual Mosses—in all ninety-two! Of these Mr. Kent has selected twenty-one, but this selection must be, I think, still further reduced. First, however, let us see what each raiser contributed. I pass by the Bourbons, not one of which has made, I fancy, any permanent claim on our sympathy. The same may be said of the Perpetual Mosses; while one of the Teas, glorious Maréchal Niel, has established himself *facile princeps* of all the Roses of the last three years—the greatest acquisition we have had since Charles Lefebvre. Of the Hybrid Perpetuals I therefore speak, and the following is, I believe, a correct statement of the numbers sent out by each raiser.

Charles Verdier.....	2	Portemer.....	2
Eugène Verdier.....	7	Touvals.....	3
Margottin.....	2	Trouillard.....	5
Marest.....	1	Oger.....	3
Levéque.....	2	Ducher.....	3
Lacharme.....	2	Moreau.....	4
Guillot père.....	4	Fontaine.....	4
Guillot fils.....	8	Danaizin.....	2
Gonod.....	3	Pernet.....	3
Guilnoisseau.....	1	Baumann.....	1
Defaux.....	1	Jamain.....	1
Liabaud.....	1		

There are besides some thirteen or fourteen from growers whose names sometimes are not given, and others are unknown to us. Taking Mr. Kent's list I find he has selected of Guillot fils, 1; Gonod, 2; Oger, 1; Margottin, 2; Portemer, 2; Eugène Verdier, 4; Charles Verdier, 2; Levéque, 1; Jamain, 1; Lacharme, 2; Pernet, 1; and on referring to my critique on these when the catalogue appeared, I named the following as likely to be the favourites:—Rushton Radclyffe (Eugène Verdier), Souvenir de Wm. Wood (Eugène Verdier), Duc de

Wellington (Charles Verdier), Duchesse de Caylus (Charles Verdier), Duchesse de Medina Coeli (Marest), Madame Charles Verdier (Lacharme), Marguerite de St. Amand (Jamain), Jean Rosenkrantz (Portemer), Triomphe de la Terre des Roses (Guillot père), Xavier Olibo (Lacharme), Madame Moreau (Gonod), Charles Wood (Portemer), and Souvenir de Bernardin St. Pierre (Guillot fils), and I believe that the best varieties of the year are now, after we have had the opportunity of testing them, with one or two exceptions, to be found in this list, which was drawn up partly from observation, and partly from supposition; for the following I believe to be the best of the list:—Duchesse de Caylus, Dr. Andry, Marguerite de St. Amand, and, perhaps, Duc de Wellington; in the second rank, some treading very closely on these, I would place Rushton Radelyffe, Madame Moreau, Madame Amélie Halphen, M. Boncenne, and Xavier Olibo; all the others are pretty good in some sort of way, but not coming up to my ideas of acquisitions. There are several of them which I dare say will be prized by exhibitors for some time to come, but judging them by the standard of excellence that I would set up as that to which I would have all raisers aspire, I will now give my reasons for discarding them, and also why I place those I have named.

Duchesse de Caylus is the premier H.P. of the year, lovely in colour, a beautiful soft carmine rose, and, as Mr. Kent justly says, perfect in form.

Marguerite de St. Amand.—Any one who had the opportunity of seeing Mr. Cant's stand of this at the National Rose Show, can have no doubt as to the position in which I have placed it. It is a light rose-coloured flower of large size, and good shape, nothing coarse about it.

Duc de Wellington.—Brilliant in colour, splendid in petal, but I have noticed that it has not been much shown. Whether this implies any delicacy of constitution I know not, as I have never had it.

It will thus be seen that Charles Verdier has two of the *AI* varieties (and as he only sent out two, this says much), *Eugène Verdier* one, and *Jamain* one.

Of those which I have placed in the second rank,

Dr. Andry is a fine flower of good shape and brilliant in colour. A friend to whom I gave a plant says he thinks it and *Charles Lefebvre* the best two Roses he ever had. I do not go quite so far as this, but think it a fine Rose.

Rushton Radelyffe is a fine full Rose, of the *François Lacharme* and *Madame Furtado* type. It was said by some to be delicate, but Mr. Radelyffe says no, and I have seen it very vigorous; but I fear it will not do everywhere, and so I put it as second-rate.

Madame Moreau.—Undoubtedly a fine showy Rose, as Mr. Keynes's stand of it testified, but it is one of those flat, saucer-like flowers which we do not want.

Madame Amélie Halphen.—A very delicately-coloured pretty flower, but I fancy not quite full enough. Too apt to show the eye.

Monsieur Boncenne.—A very dark and good-shaped Rose, in colour something like *Prince Camille de Rohan*, but a better-shaped flower. I should have put it in the first class if I were quite sure that it was full enough, a fact I rather doubt.

Xavier Olibo.—Very near being one of the best. The petal is large and thick, the colour glorious, but it has an ugly cleft-way of opening its bud, and the consequence is that few of the flowers open well.

Abbé Berlèze is pretty, and would be admired by some. *Belle Normande* is too washy in colour. *Charles Wood* is a fine dark colour, but we have many like it; the same may be said of *Général d'Hautpoul*. *Jean Rosenkrantz* is a good colour, but not remarkable. *Madame Charles Verdier* is not good in shape. *Madame Elise Vilmorin* is brilliant enough in colour, but rough. *Charles Margottin* is a very showy Rose, but it wants form. *Semiramis* and *Triomphe des Français* are good enough, but we have others quite "as good as they."

And so our list is pruned. Ah! what patience and disappointment our English Rose-growers must experience, to propagate a lot of worthless varieties, and then to have to throw them away! and unless more attention is paid to the antecedents of raisers, and less to high-flown descriptions, it will always be so. I know what it is from seeing my friend and neighbour Mr. Banks over his seedling *Fuchsias*; he consigns to destruction literally thousands every year, of which many persons would consider a large number quite good enough to send out. He, however, has a high standard, and where another would overlook a trifling defect of shape, or colour, or habit, or inconstancy, he ruthlessly consigns them to destruction. Some of the French

raisers act thus; but others send out their flowers, and leave us to discover that while in many points the description held good, there was one little point omitted which altered the whole character.—D., Deal.

ORCHARD-HOUSE CULTURE.

Two or three weeks ago a letter appeared in your *Journal* from a correspondent who described himself as the parson of a parish, in which he gave your readers the benefit of his experience as regards orchard-house culture. His letter was interesting to me, partly I suppose on the principle that "birds of a feather flock together" (for I, also, am a country parson), and also because the system which he described so nearly resembled that which I have myself pursued, that I felt I could endorse nearly all his statements. Now, as my orchard-house is pronounced a decided success in this part of the country, perhaps a few words from me may be acceptable to some of your readers, and I shall be glad indeed if any observations of mine prove useful to those who have lately invested their money in orchard-houses. First of all, let me just say that I attribute my success to the implicit obedience which I have paid to the directions furnished by those *Arcades ambo*, Mr. Rivers and the Rev. T. Bréhaute, and I most strongly urge others to do the same, as I am quite sure that the reason why some of my neighbours have met with comparative failure, is because they have not paid sufficient attention to the valuable information contained in such books as "The Orchard-House," and "Cordon-Training of Fruit Trees," but have left their trees to the tender mercies of their gardeners, the ignorance of some of whom is often the measure of their prejudice and presumption.

It is now four years since I built a cheap orchard-house, over ground which I had carefully prepared for the purpose. Spade in hand I set to work, employing myself during my leisure hours in excavating a trench 45 feet long, 14 feet broad, and 4 feet deep, placing all the good soil outside, and barrowing that which was bad or indifferent to fill up a hollow in my field. It was splendid exercise—perhaps I should say hard work—this digging, *sine otio* (as Mr. Bréhaute has it), but not so hard as I remember it was tugging at the end of an ear in the University race between Westminster Bridge and Putney—dear me! I do not like to think how many years ago. It was with no little pleasure I assure you that I at length surveyed the result of my labour—a tidy hole as some one called it; but it would not do to stand long gazing on vacancy, so I soon commenced the work of paving the bottom with large pieces of clunch stones, brickbats, and anything else that would serve as drainage, overlaying these with a quantity of cinder ashes, which I rammed down hard and smooth. I then threw in all the old faggots I could find, plenty of leaves and garden refuse, and next shovelled in the good soil, mixing it with bones and dung, giving it also a copious drenching with the contents of a tank, which is the receptacle of the liquor which is drained from my scullery—capital stuff for Strawberries, I may mention, but likely, I should think, to stink in the nostrils of inspectors of nuisances. My friends the farmers were very good to me, carting in, free of expense, I know not how many loads of splendid virgin fibrous mould.

Against the back wall of my house are trained Peach and Nectarine trees on the triple cordon plan invented by the Rev. T. Bréhaute, which I beg highly to recommend, as elegant, productive, and having the advantage of making available every inch of the wall. A foot and a half from the wall is a path 2½ feet wide, having an ornamental edging. The remaining space is filled with pyramidal trees in pots, Apricots, Peaches, and Nectarines, all paragons of perfection, as in consequence of regular syringing, the application of Gishurst compound in the winter, and early fumigation in the spring, I have not been in the least degree troubled with either aphides or red spider. Beneath each rafter and round each pillar is trained a Grape Vine, each having on the average eight large well-thinned bunches of either Muscat or Black Hamburg Grapes, which alone would repay me for the original expense of my house. Half the number of my potted trees (which were retained under glass until June), are planted outside; from them I have already gathered ripe fruit of exquisite flavour and colour. I have a pump inside my house, supplied by the rainfall from the glass, and which, although I have drawn rather heavily upon its resources, has not yet failed me. I have twenty zinc pails arranged on one side of the path, in which the water is

exposed to the heat of the sun before I use it for either watering or syringing. I believe this to be an excellent plan. I will not add to the length of this communication by obtruding any hints of mine on the subject of orchard-house culture. Suffice it to say, that I go by book as closely as I can. I must frankly own, indeed, that my trees will not invariably grow in such a manner as to square with Mr. Brabant's theory, where he lays down that each spur should be furnished with two shoots, one for wood and one for fruit, yet I regard that formula as the embodiment of a very important principle, and I follow it as nearly as my judgment enables me and Nature seems to permit.

There are two mistakes against which I should like just to warn beginners, and say, *crede experto*,—do not ram the earth into your pots when it is at all wet, especially if it be of a clayey nature; and, secondly, do not be in too great a hurry to pinch-in your young shoots. Experience has taught me to rectify these two radical errors, and I can only say, but not in a vaunting spirit, that success has crowned my efforts. Patience and observation have enabled me to overcome many difficulties, and I can thankfully add that my orchard-house has been to me a source of unmixed happiness, giving me delightful occupation during my leisure moments all the year round, and affording me a never-failing source of interest and pleasure. I feel my mind refreshed as I walk along my orchard-house and view my thriving cordon trees, my graceful pyramids, my splendid bunches of Grapes, my luscious Figs, and I think of that scriptural picture which is presented to us of almost perfect human happiness and contentment, where we read that Judah and Israel dwelt safely, every man under his Vine and under his Fig tree, all the days of Solomon. Once I was one of Izaak Walton's enthusiastic disciples; but, alas! streams are polluted now, and I care not to issue forth, rod in hand, when so many common sewers are permitted to disgorge their unseavoury contents into every noble river and babbling brook; but I have that at home which makes ample compensation for the loss of piscatory pleasures, and am inclined to think that if any relics of primeval Paradise still linger upon this much-abused earth of ours, they are still to be found within the precincts of a garden—in the simple cultivation of fruit and flowers—still to be traced in the glory of the gaily ornamented parterre, in the perfume of the sweetly-scented conservatory, and in the beauty of the spring blossoms and autumnal produce, even of the more humble, but no less enjoyable, orchard-house.—A CONSTANT READER.

ENCROACHING TREES.

THE trees (Elm and Ash), of a neighbour's plantation are placed so close to my garden as to do me great mischief by overhanging, and the roots running under the fence into my borders. As I believe this grievance is not an uncommon one, I address you, in the hope that you will say what remedy I may legally have in my power to adopt. The overhanging branches were pruned at my request three or four years ago, when I was asked to lop off any offending branch thenceforth; but the trees have now grown so large and overhanging from the very top that no pruning, and, I believe, nothing short of removal, can be of any permanent advantage.—A SUBSCRIBER.

[We do not think that you could compel your neighbour to remove the trees, and even if he were willing to do so, perhaps you would hesitate from urging him to take that course, if they are ornamental, or shelter his grounds. The remedy, however, is in your own hands, for you have permission to remove the offending branches; and such permission is much better than compelling the owner to lop them off, which he could be compelled to do, for no branches have a right to hang beyond the boundary of their owner's ground. As to the invading roots, they may be effectually repelled. Close to your boundary have a trench dug 2 feet wide and sufficiently deep to be below the roots, cutting through all that penetrate your soil. Fill the trench with stones rammed in hard without any earth admixed, and the roots will not attempt to trespass again.]

THE SAWBRIDGEWORTH ORCHARD-HOUSES.—Those of our readers who are interested in orchard-house cultivation should seize an opportunity to visit Messrs. Rivers's extensive establishment at Sawbridgeworth, which now offers great attractions, particularly to such as are fond of fruit-tree culture. The new Peaches and Nectarines which Mr. Rivers has succeeded in raising, and which will supersede all the old varieties,

are of themselves a study; and the profusion of fruit with which they and the Apricots in pots are laden cannot fail to astonish even those who have no practical knowledge of the subject.

ROSES AND STRAWBERRIES AT SEEND, WILTS.

THE Rose is not only an Englishman's national emblem, but also his favourite flower; he is proud of it as he sees it entwined with the Thistle and the Shamrock, and he thinks that the best portion of the device is his; he grudges not the Scotchman his Thistle, nor the Irishman his Shamrock; and as to the Welshman's national vegetable—well, he would rather have nothing to do with that. But the Englishman is not only proud of the Rose, he loves it. Watch the crowd in Cheapside, and men of business though they be; they have their favourite flower, and that flower is the Rose; and dear, round-faced, smock-frocked Hodge—smock-frocked at church on Good Friday and Ash Wednesday, but in good broadcloth (black usually, with an eye to a good appearance at burials), on a Sunday—well, does not he cram his button-hole with Cabbage Roses? (Fancy a Scotchman with a Thistle in his coat!) And, more than that, does he not tell his Mary, as he pours bucket after bucket of milk into her cheese-tub, "that her cheeks be like two full-blown Roses?" Well, of course he does, the Rose being his ideal of beauty. We all love the Rose. In babyhood we did, when with chubby plucking fingers we littered our little carriage floor with petals of Damask and China Roses. Childhood succeeded babyhood; still we loved the Rose, and prised most of all that Maiden's Blush in our little garden. Youth next. Ah! then we gathered carefully the choicest half-opened buds, and gave them with such a look and meaning to our —. But no more; these reflections will not do. Ah!

"That was the time of Roses,
We plucked them as we passed."

But putting aside the poetry of life connected with the Rose, it is certain that each year the love of Roses is on the increase. This we owe to raisers of Hybrid Perpetuals. Blessings on the man who brings out a good Rose which will bloom from June to December. That is the Rose for popularity. It needs no wrapping up in lavender in the winter, no potting and repotting, no taking up, &c. No, there all winter long it stands in the garden uninjured, and for half the year is an object of beauty.

One miserable, rainy day last February I received a hearty word-of-mouth invitation from Mr. Ambrose Awdey, the head of one of our oldest, happily most numerous, and most respected Wiltshire families, to be present at his annual Rose and Strawberry gathering, held on his ancestral acres at Seend. Now, knowing Mr. Awdey to be one of our best and most enthusiastic rosarians, and that his Strawberries made people open their eyes and their mouths too, I accepted the invitation readily and gladly. I often thought about the treat in store, laid my head back in my study chair on windy days—my horror—and said I shall enjoy myself then. I sniffed at the treat at a distance, as an alderman may be supposed to sniff at turtle soup when a mile off. I longed for the time to come, intending to give myself up to enjoyment like a very child. At long-last the Rose time came round, and with it a note fixing the day of the Rose and Strawberry festival. There had been a good deal of rain those first four days of July, but why should it be wet on the 5th? Besides, the word Seend means sand, so the roads will not be very bad if there be rain.

On reaching Seend by rail, I ascend from the station, and climb a steep hill and soon enter the village, seeing a break before me full of ladies (flowers on their way to the flowers). Then I enter the village street; a pretty clean-looking village it is, with a sufficient number of good houses near enough together to make a charming band of country neighbours—ladies who would drop in to tea with each other after an afternoon's walk, and have pleasant parochial chats about the school and the poor, "how nervous the governess is about the coming of that terrible government inspector, and they intend to give her an hour's help each day;" and then the poor, "how Martha Smith needs beef tea, and Molly Hull wants an outfit for her daughter, who is going to her first place of service." In fact, I liked the look of Seend, and almost coveted the parson's place.

Having reached my host's house we had a light lunch, only a standing lunch—cake, and wine, and biscuits, and Straw-

berries, for we are to dine at half-past three. Luncheon over, we formed little parties and started out whither I knew not, for I was an utter stranger. As usual, the young folks managed to get together—the old story over again; and the married ladies they got together, doubtless talking about their children's colds, measles, and education. Then the husbands they got together, save the very young ones or the hen-pecked, and felt almost bachelors again.

Led by my host, who welcomed me as warmly as he had invited me, I saunter up the village a little way, and enter a walled garden about half an acre in extent. On the left hand I inspect a well-built orchard-house, full of healthy little trees, and Vines, and larger wall trees. This pretty house is on what was a mere garden wall three years ago. "This house," said Mr. Awdey, "I owe to THE JOURNAL OF HORTICULTURE." Passing on I come to a ground viney; "This, too," said Mr. A., "I owe to THE JOURNAL OF HORTICULTURE." Looking round me I noticed the thorough cultivation of the garden. There is a great difference between half gardening and whole gardening—the soil made to produce something, or the soil made to produce as much as possible, and grow everything as well as possible. I said, "What a soil you have!" "Ah, yes; but I carted six and thirty loads of maiden mould here a little time back," was the reply. Perhaps being in the fruit garden is the place to speak of the Strawberries cultivated by Mr. Awdey, although, as I shall presently state, they are grown chiefly with the Roses. The varieties Mr. Awdey cultivates are Eclipse, Oscar, Sir Harry, Sir C. Napier, Carolina Superba, and Eleanor; but of their size and flavour by-and-by. Walking around the walled garden I observed that net frames were fastened in front of the fruit trees; this is a neater and better plan than mere nets of string.

Coming out into a lane we reached the church, crossed the churchyard, dipped down the grassy slope, now and then looking at the fine view before us, and took a path across the fields to the right. Well, where are we going? I had imagined a house, shrubberies and Rose garden adjoining; but I was now leaving all human habitations behind me, and going among the rich pastures in the valley below the Wiltshire Downs. Further on I find in a field Roses surrounding a piece of grass used for croquet, just outside a boarded enclosure. Here I prepare to stop, but no; I am told that these Roses are but a few, chiefly transplanted dormant buds of last year's budding. I am led to the corner of the wooden enclosure, a suspiciously little door is opened, and my breath is almost gone; for slightly to alter the words of Kirke White—

"Such a sight as I saw there, I ne'er had seen before;
But such a sight as I saw there, I hope to see once more."

Now, good reader, just imagine a two-acre field right out in the country, boarded in with 10-feet high boards, precluding, therefore, all sight of what was inside while you were on the level ground. A door opens and you enter, and behold *Félicité Perpetué* Roses, those darling cream white flowers, covering or rather lining the whole inside of the boards, thus giving a frame of pearly whiteness to the picture. Then within, beds of Roses some 16 yards square, in each bed Roses of the same height, and each row of the same colour. Imagine wide borders all round, separated by paths of the original turf of the field, for this Rose garden was a few years since but a field where cows grazed; then grass paths between each bed; while overhead arches, Rose-covered, united border with bed, and beds with each other. Then at your feet on each side of you were marvellously-grown Strawberries in vast abundance. I walked up the middle path to the other end of this Rose field, then turning round I surveyed the scene. Before me at that end lay a carpet of dwarf Roses, grown on the *Manetti*, then beds of half-standards, then higher; but I was struck with the rich colour of the scene before me, begirt in such good taste with a belt of white. No flower was there but the Rose; but what a bedding plant it makes in good hands and good soil! The Roses in the beds were sometimes in lines, at other times planted quincunx, and the rich brown pasture mould looked not unsightly between the stems. Now, to say what Roses were there would be simply to write out the first good Rose catalogue that came to hand. Mr. Awdey had within and outside the enclosure about four thousand plants. Inside none but the best *Perpetués*; outside were groups of the best of the old summer Roses, and extensive young plantations of the novelties of the Rose world, which having successfully passed their novitiate outside, will be hereafter admitted to the Rose garden proper. Every known beautiful Rose suited for out-door

growth was before me. Hundreds of Charles Lefebvres, and *Senateur Vaissee*, and *Comtesse de Chabrilant*, the three unrivalled ones; bold *Eugène Appert*, its leaf almost a flower, so beautiful is it; delicate *Auguste Mié*; more delicate *Made-moiselle de Bonnaire*; *Madame Boll*, that fine woman; that gorgeous velvety monarch, *Louis XIV.*; *John Hopper*, the best of recent English (Rose) gentlemen. But how can I mention the dukes and duchesses, the generals and lords, the madames, princes, and emperors, the tender souvenirs?—why, all were there! Hybrid—no, *high-bred Perpetués*, princes of the Bourbon line, Chinese mandarins, and ladies very fine indeed, and smelling, as of course they ought, of tea. Hundreds of the best, dozens of the second best, all varieties of colour, all varieties of leaf, and habit, and growth—truly it was a fairy scene.

Then came the attack upon the Strawberries, though we were warned not to judge of their size, as the best had been gathered for dinner.

Round and round I go—outside to see the novelties, or to look at the old favourite summer Roses. In the middle of the garden I had noticed something that seemed a combination of skeleton pump without a handle and a camera, the whole made of wood and painted green; but where was the photographer? Why was the camera always looking straight at the summer house? By the way, how indifferent to appearance must a photographer be. See one with his head under his velvet focussing his picture: behold the human form greatly degraded—a sort of two-legged head-wrapped-up animal, given to inelegant postures. But, to return. I asked what the green machine might be, and was told that it was a revolving gun, which went by clockwork, had a pendulum, and when loaded and wound up fired every half hour during the four-and-twenty, and that it was invented by a Wiltshire man. Now, query, Do not the blackbirds become used to the firing at stated intervals? For instance, Do they not enjoy twenty-five minutes' thieving of the Strawberries, fly over the wall, and then, the firing over, enjoy twenty-five minutes more, and so on? Wandering among the Roses, Mr. Awdey attracted my attention to his favourites, and remarked, "He not only read, but looked for the papers of 'D. Deal.'"

A bell sounded on the hill, and we strolled up to a tent where dinner was provided, and sat down—forty happy souls, to refresh our bodies. A capital dinner *à la Russe*, and, oh, the dishes of Strawberries! Mr. Awdey stated, "that during the whole season the fruit on all his six varieties had been remarkably fine, many of the berries weighing an ounce each." I wandered from Oscar to Sir Harry, which I think I liked best; then to Sir Charles Napier, until Eleanor's charms attracted me; nor could I think of passing by *Carolina Superba*, nor wholly neglect *Eclipse*. Certainly the old rule, the larger the berry the poorer the flavour, no longer holds good. I have not yet tasted *The Lady*; but what can beat Sir Harry? We had a pleasant merry dinner under the tent, laughing at rain, for though one shower fell, who cared a bit about it?

After dinner we went back to the Roses, and soon Mr. Awdey gave the word "Gather bouquets for the ladies!" Then out came knives and scissors, and the ladies were most civil and fascinating to those who gathered for them. They were—who would not be?—greedy for Roses; they opened their parasols, yea, and umbrellas, which, inverted, became Rose-baskets of large dimensions, while our host looked on laughing, and bade them take more. A walk back to the tent followed, where we sipped our tea, looking down upon the beautiful Rose garden, which shone like a rich-coloured gem among the green fields, and no one could imagine a single Rose had been gathered.

Scend possesses a lovely view; there it lay before us, the rich broad valley, then the rising woods of Earlstoke, backed by the Downs; to the right, far away, was Rood Ashton, to the left, but distant, Roundaway Down. A wide, wide view filled our eyes.

After tea there came the gradual dropping-off of guests; timid ladies eyed their boot soles, fearing damp; loving fathers hastened away their daughters; the most determined croquet players had to give up; the party grew smaller and smaller in spite of our host's hospitable entreaties, for many of his guests had far to go to reach their homes.

I must add, in conclusion, that Mr. Awdey had budded the greater number of his Roses with his own hand, and, like all Rose-lovers, he loved them more and more. He afforded us all a great treat; his love of Roses was no selfish love, for he

made it the means of making a large party happy. May he for many, many years have all the success and all the pleasure which he so richly deserves.—WILTSHIRE RECTOR.

BEDDING PLANTS.

(Continued from page 98.)

VERBENAS.—In August take cuttings from the strongest and shortest-jointed shoots, such as start from near the collar, and do not appear disposed to flower. They should be from 2 to 3 inches in length, and have two, or at most three, good joints, in addition to the growing point. The cutting is to be taken off below the lowest joint, and not too closely, as at or a little beneath the joint there may be a root or roots in course of being protruded, and such may be distinguished upon close examination. To cut off this portion of the stem is to jeopardise the rooting of the cutting, though the latter may strike if cut quite up to the joint, and cutting off the lower part of the shoot midway between the joints is to leave a portion of stem likely to rot; therefore, take off the cutting from the point beneath the joint at which it begins to swell upwards. Trim off the leaves from the lowest joint, and from the one next above it if that part is required for insertion in the soil. The cutting should be of such a length that, when inserted, two-thirds of it shall be in the soil.

I shall now suppose that the cuttings are ready for insertion either in pans or in the frame, there to remain permanently during the winter, but the adoption of either system in preference to the other is a question which those for whom these notes are written must determine for themselves. If the means are limited to a two-light frame, then I would recommend the division of the frame into two parts by a partition of wood immediately under the bar on which the lights are supported and slide. This division will, of course, be of three-quarter-inch Baltic timber, or red deal boards, tongued and grooved, and fitting exactly in the manner of an end with this difference, that it is to fit within the frame. A strip of wood, three-quarter-inch by half-inch, nailed to the sides back and front vertically under the sliding bar, will allow of the division being secured there. The two-light box being thus divided into two parts, either can be opened or shut independently of the other. The half of this frame I propose to fill with *Verbena* and *Gazania* cuttings, and I would choose for it a warm, sheltered, dry situation, open to the south, but protected from the north and east. The soil where it is to stand is to be taken out to the depth of a foot, and 1 foot 6 inches wider than the frame every way, giving the bottom an inclination from the centre to the sides. In the place thus dug out spread brickbats or rubble to the depth of 9 inches, then an inch or two of gravel or of the rubble made finer, and on this set the frame so as to face the south. A couple of inches of the siftings of the compost may now be spread over the gravel or fine rubble, then 3 inches of turfy light loam two-thirds, and leaf mould one-third, the whole chopped and made fine with a spade, and finally sifted through a riddle with half-inch meshes. On the surface place an inch of river sand, and, after making it level, gently pat it down with the back of a spade.

The cuttings may now be inserted in lines 1½ inch apart, and the same distance asunder in the row, putting them in with a dibble just up to the lowest leaves, and pressing the sand gently around them. Two-thirds of the light may in this way be occupied with *Verbenas*, and the remaining one-third with *Gazanias*, the cuttings of which are to be taken in the same manner, preferring those which come from the collar, and, instead of cutting, slip them from the plant. They are best when 8 inches long. Cut them transversely below the lowest joint, which may only need a little trimming, remove the leaf from that and the joint next above it, and if the cutting have no more than another joint and the growing point it is a good specimen of the proper kind. These are to be inserted in lines 2 inches apart and 3 from the *Verbenas*, allowing 1½ inch from cutting to cutting in the lines. Put them in in precisely the same manner as the *Verbenas*—that is, up to the leaves, and close the sand about them. The cuttings having been inserted, give the whole a good watering, but only to settle the sand about them, put on the light, and cover with a mat if the day be sunny.

The cuttings will never flag, or if they do they will recover by the next morning. They should then be shaded from sun, and kept close during the day, admitting a little air at night

by tilting the frame or light half an inch or so at back. So long as the sand remains moist do not water, but if it show signs of dryness sprinkle the plants overhead in the morning through the rose of a watering-pot. Continue the shading, and, when the cuttings exhibit signs of growth, gradually reduce the shade, and admit air during the day as well as at night by tilting the light at back; but if the cuttings flag diminish the amount of air, and continue to shade until they become well rooted, which will be in three weeks. They are then to have air day and night, and, after they have been thus gradually hardened off, at the end of a month the light may be drawn down, and only replaced during heavy rains, remembering that the object of doing so is to keep the wet from the soil, and not to deprive the cuttings of air, which must in this case be given by tilting the glass at back. Afford all the air possible, using the light for no other purpose than protection from wet and frost. A gentle shower will be of advantage at times, but anything tending to make the soil wet, or causing it to become green, is to be avoided, at the same time it must be kept sufficiently moist.

When the weather becomes foggy, and the ground wet, do not scruple to give air, but keep on the light, admitting air day and night all the same, and this until absolutely obliged to close the frame on account of frost. The other light, respecting which I have as yet been silent, is intended for *Calceolarias*, which I shall treat of in due time. When frosts occur, the sides of the frame are to be banked up with coal ashes, commencing about a yard from the frame, and carrying the ashes up to the top of the sides so that the lights may just slide up and down. This may be done early in November, and will not only tend to prevent the frost penetrating by the sides of the frame, but will keep the ground from being frozen so near it as would otherwise be the case, and thus give the plants the benefit of the heat of the earth.

During frost protect the frame with a single thickness of mats thrown over the lights, with two thicknesses if the weather become more severe; and if the frost is very sharp, in addition to the mats cover with dry short straw or litter, not only the lights, but the ground for a distance of 2 or 3 feet from the frame. This covering may be from 6 to 9 inches in thickness, and need not be removed so long as the ground remains frozen, nor then until a thaw commences. The covering, with the exception of a single mat, which may remain on a day or so, should then be removed, and air admitted by tilting the lights at back, gradually increasing the amount, and also exposing to light, so that the plants may bear full exposure to both in the course of a week or so. (I here employ the word lights, for these remarks on protection relate to the whole frame, *Verbenas* and *Calceolarias* requiring the same treatment as regards protection from frost in winter, and exposure to light and air after a continuance of frosty weather.) If the frost at night thaws during the day, the covering is to be removed daily, and air afforded, taking care that it shall not be frosty; put on the covering at night, and remove it in the morning after it has thawed, not otherwise. Whilst the weather is so cold that the plants cannot make growth, the covering may remain, for the want of air and light will not harm them; but when the weather becomes mild the plants if left uncovered will grow though in darkness, and the shoots so made are more susceptible of injury than those formed with light and air. It is, therefore, necessary to remove the covering as soon after frost as consistent with the safety of the plants, and that is when the covering becomes thawed. This is the best guide I know. To sum up, give air whenever the weather is mild, protect from wet as well as from frost, admit air in wet weather, and have protecting materials always in readiness to throw over the lights when necessary, and I may add that the drier the plants are kept the better they will resist frost.

Beyond protection and giving air, the plants will not require any further attention until April, excepting stirring the sand between them, and picking off any mouldy or decayed leaves. Early in April a bed may be made of the litter used for protection, mixed with tree leaves and a little fresh litter; raise the bed to a height of 2 feet or so, and cover it with 3 or 4 inches of turfy loam and leaf mould, two parts of the former to one of the latter. When the bed becomes warmed through take up the *Verbenas* and *Gazanias* from the frame, plant them in the bed 3 inches apart every way, and give a gentle watering. An excellent protection may be formed of four 11-inch boards 1 inch thick—i.e., two for the ends and two for the sides, nailed to a piece of wood (2 inches square) at the corner, and a few slater's laths (3 inches by half an inch), placed like the rafters of

a roof at 1 foot apart, and tacked to the edges of the boards. A covering of one thickness of mats should be put on by day for a few days, and of two or more thicknesses at night, as the weather may prove frosty; but after the plants have become thoroughly established expose them in all mild weather, merely protecting at night from frost. Due attention should be paid to watering, never supplying more than is sufficient to keep the soil moist, and when water is given in the morning, a sprinkling now and then overhead will do good.

The plants having been stopped for cuttings in April, or if these are not wanted then, merely stopped if they seem disposed to become lanky (and this may be done from the middle of March up to the middle or end of April), they will by the middle of May be strong and bushy, and will lift with good balls. The first showery weather after this they are to be planted out finally in the beds or borders. These should be prepared for the reception of the plants by being deeply dug, and have a liberal dressing of leaf mould, or well-rotted manure worked in.

As to dealing with the pit and frame of "A YOUNG AMATEUR," what to do in the matter of wintering Verbenas is not clear. For my part I should elect to retain the frame for Calceolarias, and divide the pit into two by a 4½-inch brick wall, carrying it up to the rafter, or bar supporting the lights. One half, or two lights, I would fill to within 15 inches of the glass with any kind of rubble, and then place 3 or 4 inches of the rougher portion of the soil, and an inch of sand over all, preparing and putting in the cuttings as in the former case, and treating them in precisely the same manner. The only objection to this plan is that the rubble renders the bed a permanency, whereas it may be desirable after the bedding plants are cleared out to make up a bed for Cucumbers or Melons, or for forwarding half-hardy annuals and other plants for bedding-out. In that case the Verbena and Gazania cuttings may be inserted in well-drained pots, with an inch of the siftings of the compost placed over the drainage, and the pots filled to within an inch of the rim with a compost of two-thirds light turfy loam, and one-third leaf mould; afterwards fill to the rim with sand. A six-inch pot will hold a dozen cuttings. After the cuttings have been put in set the pots on coal ashes in a cold frame, watering gently to settle the sand about the cuttings. Keep close, and shaded from bright sun, and sprinkle the cuttings overhead occasionally in the morning, admitting a little air at night. The sand in which the cuttings are inserted should be kept moist, but never very wet, avoiding extremes as much as possible, and in this manner proceed until they show signs of rooting, which may be known by their commencing to grow, and withstanding sun without flagging. Give all the air practicable after that, protecting only from heavy rains, and keep the soil sufficiently moist.

Although I have detailed the treatment of Verbena and Gazania cuttings in pots, I would recommend them to be struck without pots in beds. I would devote two lights to them, and the other two to bedding Pelargoniums, which I presume to be struck either in pots or boxes, and wintered in these in the pit. Of their management there I shall treat when I come to the wintering of old plants.

Of Verbenas, I may state that *Géant des Batailles*, crimson, with a dark centre; *Defiance*, scarlet; and *Boule de Neige*, white, winter well. *Purple King*; *Lord Raglan*, cerise scarlet, lemon eye; *Ariosto Improved*, mulberry; and *Blue King*, do fairly; but none excel *Impératrice Elizabeth*, and *Velvet Cushion*, magenta. *Cherry Ripe*, a charming rosy pink, likewise does well. Of *Gazanias* I care for none except *G. splendens*.

Should thrips or green fly make their appearance, cover the frame or pit with mats, and on a calm evening, when the foliage of the plants is dry, fill the frame with tobacco smoke, and on the next night but one repeat the fumigation. Whenever mildew is discovered, dust the leaves and shoots with flowers of sulphur.—G. ARBEX.

(To be continued.)

ST. JULIEN STRAWBERRY.—For the sake of Strawberry lovers, I wish you would recommend a seedling sent out by Messrs. Rivers, of Sawbridgeworth, named *St. Julien*. It is a very fine, beautifully-formed, dark-coloured fruit, most prolific, and for flavour one of the best I ever tasted. I have had a wonderful crop this year off beds made last March, and I intend to recommend it strongly to my friends.—A SUBSCRIBER.

CULTURE OF TRACHELIUM CÆRULEUM.

I HAVE just now a good plant of the somewhat-neglected *Trachelium cæruleum*. When a year or two ago I saw it growing in a window of a friend's house in London, I was so much struck with it that I begged some seed, and have grown a plant or two every season since, as it has now become not only with myself but with my employers an established favourite.

The seed should be sown in June. This will admit of having good strong plants in 48-pots to stand the winter. In spring give them a good shift into 24 or 16-sized pots, keep them as cool and as near the glass as possible, and pinch back constantly till the end of May, by which time the plants will have two or three dozen blooming stems. As it is properly an autumn-flowering plant, the plants would be better plunged in ashes out of doors till the bloom is about to expand, when they may be carefully tied out, and removed to the conservatory, verandah, or any sheltered nook where they are not exposed to the rain. The large masses of cerulean blue, often 6 inches across, which each stem will produce, will make each plant a handsome specimen, and will well repay the small amount of labour they have cost.—A. D., *Maybush* (in *Florist and Pomologist*).

VARIEGATED MAIZE.

IN answer to "A YORKSHIRE CLEGGMAN" respecting the Variegated Maize, I am sorry to say that I have been equally disappointed. My employer obtained from a respectable London house a shilling packet of seed, which contained only four seeds; only one grew, and the plant is now about 4 feet high, but in just same state as "YORKSHIRE CLEGGMAN" describes, the bottom leaves being dead and the tips of the others dying. I also obtained a shilling packet of seed from Messrs. Carter and Co.; it contained eight seeds. These produced six plants, which grew rapidly, but one has since died; they are not so forward as the plant first referred to, but I find they are going in the same way.

I may mention that my plants are in some large ornamental pots, and have leaves about 30 inches long, from 2 to 2½ inches wide, and beautifully variegated. If anything could be done to preserve the leaves, by placing three plants so as to form a triangle in a pot or in a clump in the borders, this Maize would be a great ornament to our gardens and conservatories. The soil which I used was loam, leaf mould, and a little drift sand. The plants have never been allowed to suffer for want of water or pot room. The plant raised from the first packet is under glass, the rest out of doors. I hope others will report their experience.—S. TAYLOR, *Barbourne Terrace, Worcester*.

NOTE ON BORDER-HEATING.

[THE following paper by the Rev. W. Kingsley, of South Kilvington, appeared in the third Number of the "Journal of the Royal Horticultural Society," recently published. This contains, besides, a continuation of Professor Schultz-Schultzenstein's dissertation on the nutritive constituents of water; a note on the cultivation of *Amherstia nobilis*, by Mr. Taplin; a report on Peach and Nectarine trees at Chatsworth, by Mr. R. Thompson; articles on a disease in Celery, on two species of *Rudaea*, and on *Asplenium ebencides*, a supposed hybrid Fern from Philadelphia, by the Rev. M. J. Berkeley; observations on certain species and varieties of *Crataegus* and *Pyrus* as ornamental plants, by Mr. T. K. Shortt; hints on hybridising fruits, by Mr. Standish; and a short note on the horticulture of Hungary, by Miles Berkeley, Esq. Both of the two last papers have already appeared as extracts in our pages.]

THE border which I have the means of heating is about 120 feet long and 10 feet wide, and is at the foot of a south wall 12 feet high, with a cross wall at each end. Four pipes run the entire length, and are in the midst of a mass of drain-tiles, which are at right angles to these hot-water pipes, and lie in lines sloping upwards towards the wall, with rise enough to secure the flow of the water, and the circulation of the hot air; upon the drain-tiles there is a layer of coke. The result gives me a temperature about that of a very gentle hotbed. I do not think I should construct the bed in the same way again; but I had been doing a good deal of draining, and the defective tiles were good enough for this purpose. My fruit-trees are in pots, some as large as 2 feet across, but most of them 15 inches. The pots stand upon the coke, or very little above it. In winter they are covered with earth and dry litter, so as to keep the frost off completely; but in the mild weather they are little

more than half buried, and in the heat of summer are raised to the surface, to let the sun give them as much heat as possible, and at the same time to allow the roots during the summer months to pass out of the bottoms of the pots into the ground.

The way in which I have applied the heat is, as far as I can, to encourage the growth of roots in winter, and to give a temperature to them, when the fruit is setting, above what we get from the sun in this climate, and then again, when the heat begins to fail in early autumn, to give warmth to ripen the wood and get the trees put to rest early, by their having heat and no water. Perhaps it will be best to state how the trees are heated throughout one year. During the sharp frosts of winter the hot water is kept going night and day, and I have heat enough to thaw any snow that falls, but I do not raise the temperature of the ground so high as this, but only enough to prevent the roots being so much checked in their growth as to destroy the young spongioles. Whenever the weather is mild the fire is not lighted; and by the end of February there is rarely any occasion for artificial heat. As soon, however, as the trees are in full blossom, the fire is again lighted and the heat steadily increased, and kept up till the sun warms the ground thoroughly; at this period the fire is lighted early in the morning and allowed to go out at night, and so gradually till artificial heat ceases about the middle of June, or later if the season be cold; and if a few cold days come, I give heat again during the day. During the blossoming-season the trees have a wide piece of netting over them. The trees now will have got a very great advance upon those in the open ground so far as the ripening of the fruit is concerned, but they do not open their blossoms more than a very few days before them.

Then again about the end of August I give heat during the day, and, according to the nature of the fruit, give water or withhold it, as I would encourage growth or ripen the wood. In the latter case it is necessary to cover the pots with slates or wood, to keep the rain off. My rule is to withhold water and give heat as soon as ever the fruit is ripe. When the terminal buds are fully developed, the pots are lifted and the protruding roots cut off; the soil taken out halfway down, and the roots so far out within a few inches of the stem; fresh soil is put in, a little water given to the tree, which is placed on the hot border again for about a couple of weeks, and then kept dry till the leaves fall and for some time after. The root-pruning is going on from the end of September to the end of October (I believe it should always be performed before the leaves fall); and by giving water and heat the trees do not flag for more than a day, and heal their wounds at once. No doubt much has to be learned here, and it will require many seasons to find out the best treatment. My object is to get the trees to cast their leaves very soon after the wood is mature, and to stop the long herbaceous growth that our damp autumns produce. I need hardly mention that close summer pinching is practised, so that very little winter pruning is needed. The dry heat soon sends the leaves off, and a long rest is given to the trees during the autumn. Some are placed under glass to ripen their fruit; and all would be, if I had sufficient extent of it; for as the trees are merely resting, a small space accommodates a great number, as they may be packed close together, and, the pots being dry, no mildew need be feared, as they have at this time plenty of air. Finally, as soon as the rains of autumn are over and the cold weather sets in, the hardy trees are again put into the hot border.

As may be expected, the flavour of the fruit is first-rate, and the additional length given to our summers allows many kinds to come to perfection that otherwise we cannot ripen. A month or six weeks is certainly thus added. We have plenty of light from our long days in summer; but, excepting for July and part of August, we have no heat in the ground, and during our long cold and wet autumns the rootlets of our trees rot and die, and they have to grow again before the trees have strength to swell their fruit. I tried three trees of *Bourré Superfin* last year, all grafted at the same time and equal in vigour—one in the open ground, one in the orchard-house, and one with root heat and no glass. The Pears from the open border were about the size of Walnuts, those from the orchard-house fair-sized and good, but those from the hot border were larger and finer than I have ever seen in the south of England; and it must be remembered that the season was one especially favourable for the open border, the trees in which had not been disturbed for three years, and were kept well mulched during the hot weather.

I first began the system of bottom heat by plunging Strawberry plants in an open hethed and planting them out after

giving them a rest in the autumn; and the result indeed me to try the plan on a larger scale with very various kinds of fruit. One very useful application of the hot border is for grafting young trees: the stocks potted early in the autumn and treated like the other trees during the autumn and winter and early spring are quite vigorous enough then for grafting, and they push strongly and get no checks, and so there is no trouble in keeping back the scions till the stocks are ready.

Last year I put a row of Potatoes just over one of the hot-water pipes, at the same time that the ordinary crop was planted. Some time afterwards my man (who is not learned in gardening, though thoroughly trustworthy and interested in his work), came to me and said, "The tatoes on the hot pipes are not thriving like those in the grund." I asked him what made him think so; and then it came out that he was judging by the tops. However, in a few days more the ground over those in heat swelled and broke up like mole-hills, and we had in the beginning of June the best Potatoes I have had at any time since I came here six years ago.

I am now making preparations for giving bottom heat with glass overhead, and I shall be very glad to work out any systematic experiments on the use of heat without glass, glass without heat, and heat and glass united; but I am sure that unless our experiments are based upon some principle to begin with, they will never be of value for making correct inductions; and so I shall be glad to give some time to experiments of a scientific kind in order to obtain results that, as an individual, I should never live long enough to see, but which by the united efforts of many may be arrived at in a very few seasons. So please do not think that in the account I am giving you, I suppose my system to be anything more than an experiment, or that I should consider it otherwise than a hasty induction to declare from it that the principles which for the sake of clearness I have stated, are in anywise proved to be correct.

CELERY CULTURE.

EIGHT-AND-TWENTY years ago my father grew the best Celery in the county. For nearly twenty years it was grown on the same spot. His system had something peculiar in it, and to a great extent had to be adopted through the force of circumstances. The soil of his garden was a uniform depth of 3 feet of light sandy loam, where Pears were either cracked or gritty, Cauliflowers always clubbed, Carrots worm-eaten, and the main crop of these was always grown on some distant part of the home farm; but Apples were healthy, fruitful, and their skins shining and glossy. We never since saw such Hawthorn-dens, Osmins, or Golden Pippins; and the Raspberry quarter, in a moist rather shady corner, was a perfect labyrinth of tall strong canes. Below the 3 feet of soil lay a fine clear yellow sand, upon which we used to speculate in our budding geological fancy whether it reached through to the other side of the earth; but our convictions on that point are now a little more matured. Just outside the wall stood a green rocky eminence commanding a view of the whole garden, on the top of which used to stand two venerable umbrella-looking Scotch Firs. That will ever be a green spot in our memory, recalling reminiscences of struggles then unfelt, of a large family on scanty fare, scanty clothing, on a gardener's very scanty wages.

It was a very dry hungry soil, and but for its depth, readily became parched. In summer the Celery required great quantities of water, often repeated, and far to carry; and being scarce of both water and labour, my father economised both by adopting the following system:—The Melon ground stood in an open part of the garden, on a declivity to the south, with the river Doveron running near the lower end. Large quantities of stable manure were annually used for Melon, Cucumber, and other beds, in ranges running from east to west. The Celery trench, about 5 feet wide and 18 inches deep, lay parallel to the dung-beds at the lower side. The surrounding ground was quite hard from long treading, so were the bottom and sides of the trench. The Celery trench was part and parcel of the Melon ground, and was annually in the spring cleared out; the soil which was used for earthing-up was laid to one side; the wasted manure in which the Celery had grown the previous year was wheeled away, and the trench was recharged with a quantity of the old dung from the Melon-beds.

The Celery, raised in boxes in one of the frames, was pricked out at once in rows across the trench, where it had to remain, the earliest being for some time protected and encouraged by having a few sashes from the frames laid across the trench;

the Celery, therefore, did not suffer from the usual check of removal at a later period of its growth; the later plantings had no protection at all save a little shading for a day or two. The Melon and Cucumber-beds stood on a basement slightly hollowed out of the surface of the ground, in order to have a level bottom to build upon, and to keep the surrounding ground clean and dry. Quantities of liquor, assisted by rains drained from the beds in spring and summer, and were conducted in underground channels to tanks sunk in the ground by the side of the Celery trench, and the overflow from them was directed into the trench itself. From these tanks the Celery was often watered throughout the summer, and this was a great auxiliary to the dung in the trench as a cool liquid manure, and saved carrying so much water from a distance.

The Celery was gradually earthed-up throughout the summer and autumn as it grew. This process was not left until late in the season, and the plants then earthed-up at twice or thrice as is often done, the fine clean sandy soil offering no resistance to its growth and swelling. It lay close and soft about the heads, and the Celery consequently dug out clean and perfectly blanched, and never suffered from slug and worms, as is usual and almost unavoidable in heavy clay soils. It, moreover, kept exceedingly well in winter, the soil from its texture never becoming saturated with wet. It will thus be seen that the manure the first season did service as a heating material, the second it grew the Celery, and the third was removed to the quarters much diminished in bulk. The Sea-kale, Rhubarb, and Asparagus plots were also adjoining the Melon-ground for convenience of the manure, and occupied the same ground as long as the Celery did the trench.

My father still grows Celery by deputy, but very far from the old spot. Since then we have seen it grown in many ways, in many different soils, in places widely distant. The largest Celery we ever had a hand in growing, though not the best flavoured, was grown on the moist west coast, in a soil 80 per cent. peat. Plenty of pure cowdung not at all rotten was mixed in the peat soil, and the Celery otherwise grown on the so-called Scotch system. The loose dry peat was excellent for earthing-up, and the operation could be done with the greatest facility. Under this treatment we were convinced that any variety whatever would become transformed into a "Giant," a "Mammoth," "Champion," "Leviathan," "Defiance," or "Nonsuch." It has never since been our fortune to have to deal with soil so accommodating as the two kinds mentioned. Alas! a gardener has always something to learn or unlearn with every change of place and circumstances.

Among all the varied items of advice so liberally dealt to young gardeners, we have never seen recommended the advantage of serving part of his novitiate in gardens of which the soils are of the most opposite nature. A gardener reared upon a warm sandy soil would find his dates sadly wide of the mark when coming to deal with a cold retentive clay. Celery on the clay is a difficulty, especially in the earthing-up, aggravated if the garden is new. In Lancashire I have seen it wrapped in straw ropes before earthing, which met the end in view very well, but was a tedious and untidy process. I have also seen a drain-tile slipped down over each plant after the first or second earthing, when the finer soil was used up, and nothing but the stiff lumps of clay was available to finish the process; this is also a lame resource; an improvement might be made on it by having the tiles cut longitudinally, and bringing them together round the stalks of the Celery. We have also seen pieces of thin old turf placed round the Celery, but no substitute approaches the peat or the sandy loam.

For some years we have had to deal with a stiff retentive clay, but on the drier east coast still there is the difficulty of rotting in winter to be overcome, as well as the mechanical difficulty of earthing-up. We have tried various plans and found single lines the best; the ground is trenched if possible, but always ridged high in winter. In spring we throw out the Celery ridges, 5 feet apart. These ridges are not more than 8 or 9 inches deep and 11 inches broad, which are filled up with the rotten dung, and a sprinkling of the firm soil thrown over it, so that when the Celery is planted out it is about level with the surface. The Celery having been prepared by being pricked out in rotten dung on a hard surface, is lifted and drawn asunder with good balls. The roots are spread on the surface of the dung in the ridges, and finally covered over with leaf mould, and well watered, and earthed-up in the usual way; but long before the final earthing the excavation between the rows has become much deeper than the roots of the Celery, and the ridge of soil has assumed a high sharp wedge-shape,

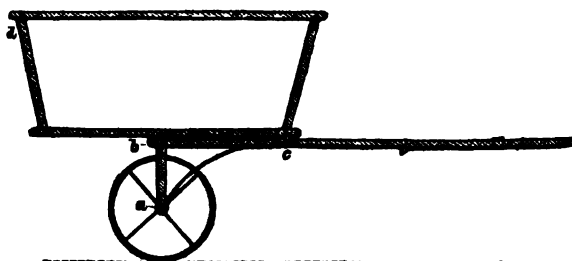
tapering to a point, to shoot off the rain which the clay does effectually, the only drawback being that the soil falls a good deal after hard frosts.

When we have grown Celery in deep ridges, either singly or on the wide-ridge plan, we never found it grow kindly early in the season, and it was always long in making a start, and patches of plants would provokingly lag behind, causing a sad bungle in the casting-up. We are satisfied this was caused by the coldness of the clay bottom, communicated by the manure in the trench. Since we have adopted the surface-planting, it grows to perfection; strong and equal, even though it might be supposed to require more water, which it does not. It is remarkable that we have had a considerable deal more Celery "run" in cold wet seasons than in dry ones. Notwithstanding the heat and drought of the last two years, we have scarcely had a "run" head of Celery, and it has grown amazingly, though not so liberally supplied with water as could have been wished. We think that worms at the root of Celery, especially that early planted, so as to encourage healthy, quick growth, is the most effectual preventive of "running," and surface-planting best secures that condition. We advise all whose soil is cold or stiff to plant high; the extra labour spent in autumn on earthing-up is saved in busy spring.—(*Scottish Gardener*.)

A USEFUL GARDEN CART.

Among the numerous implements and machines in use in gardens of considerable extent, there is none, perhaps, more in request at the present season than a garden cart. Of this requisite there are many forms, and yet few, if any, fully answer the purpose for which they are intended; but, that improvement is not difficult, I think I shall be able to prove, by laying before the readers of this Journal a drawing and description of a cart which I have in use here.

In the construction of a cart of this kind, due regard must be paid to the width of the paths, doorways, and gates of the establishment, and wheels are entirely dispensed with, an iron garden roller being substituted. To this roller shafts are attached, having iron supports made fast by an iron spindle passing through the centre of the roller, and kept in their places by a nut screwed on each side, as at *a*. The body of the cart is made fast to the shafts by a spindle passing through an iron eye at the end of each shaft and corresponding eyes on



the body, at *b*. On each side, as at *c*, there is a fastening, which admits of the body being tilted. It is necessary to remark that the size of the body must be regulated according to the size of the roller used, for if made too large it will be liable to over-balance itself when loaded; the diameter of the roller in this instance is 1 foot 6 inches, carrying a body 2 feet 6 inches wide by 8 feet 6 inches long at the bottom, and 3 feet 6 inches wide, by 4 feet 6 inches in length at the top. The end, *d*, is made to take out, and by taking out the keys at *c*, the body can be tilted, and so unloaded with ease.

The qualities that recommend this cart are its simplicity of construction and neatness, and from having a roller instead of wheels it can be taken to any part of the garden or lawn without doing damage. When the cart is not required, the body can be easily taken off, and the rest used as an ordinary garden roller.—THOMAS RECORD, Gardener to Lieut.-Col. Loyd.

LORD PALMERSTON PELARGONIUM.

As a pot plant this is one of the best with which I am acquainted, and I can with the greatest confidence recommend it to any one who has vases under cover to fill. For greenhouse decoration, as a specimen, it is a telling plant, being dwarf in habit, a very free bloomer, and having very large trusses of a

bright crimson colour. I have in a six-inch pot a plant with twenty good trusses of bloom on it, several of which are from 4 to 5 inches in diameter. On looking down upon it the foliage is almost totally excluded from view by the bloom. As a bedder it is also good, but like most of its kindred race the Nosegays, it requires a sheltered place, as its large heads of bloom are not capable of withstanding such rough weather as we have experienced this summer. As a suitable companion to the

above, I may name Magenta Queen, which though not such a telling pot plant as Lord Palmerston, is deserving a place in every flower garden, on account of its colour combined with a good truss of bloom. Out of some fifty varieties grown here these two stand first for pot culture.

I quite agree with Mr. Robson, that there is plenty of room for improvement in many varieties of bedding Pelargoniums, particularly in those of the Ivy-leaved section.—J. MAY.

AMONG THE SCOTTISH BRAES, LOCHS, AND MOUNTAINS.—No. 2.

"Over the Border!" What a cluster of romantic associations in all past times are summoned up by those three words! Feudal affrays, raids, moss troopers, romantic marriages—all, happily, now civilised away. "Gretna Green," the first railway station, has ceased to be a refuge for impetuous lovers, the law has rendered it no longer Hymen's Zoar; but had law left it unnoticed, the electric telegraph would have outstripped the fugitives. The hand pauses over naming that power which now is rendering the world neighbours. I was at Inellan the other day, a seedling watering-place scarcely known except by those on and about the Clyde, yet the electric telegraph has extended its wires thither. The Glasgow citizens have gardened villas there, and on the day the Atlantic cable brought America's reply to England's congratulation, the Inellan wire conveyed an order from Glasgow for the despatch of Carrots and other "garden stuff."

That "garden stuff," from Kale up to Roses, is of the best our islands produce. The thorough Englishman of our southern counties, and who never travelled north of the Humber, thinks that Scotland's climate is too inclement for any cultivated plant to thrive in if less robust than Scotch Curries and Oats. No conclusion is more erroneous. Let that southerner be landed on Dunoon Pier—let him walk along the shore eastward for two miles until he reaches the extreme end of Holy Loch; let him walk westward for four miles until he reaches Inellan, and I will undertake to guarantee that he will confess he never before looked upon such a six-miles unbroken succession of handsome well-garlanded villas. Not only are the gardens good, but the gardening such as might be expected from attentive readers of THE JOURNAL OF HORTICULTURE.

In those gardens a few days since I saw fine specimens of *Araucaria imbricata*, large bushes of *Fuchsia Riccartonii*, and *Hydrangeas* that have endured many winters unprotected and uninjured. Dahlias, some of the finest I ever saw, were in full vigour and full bloom on the 8th inst.

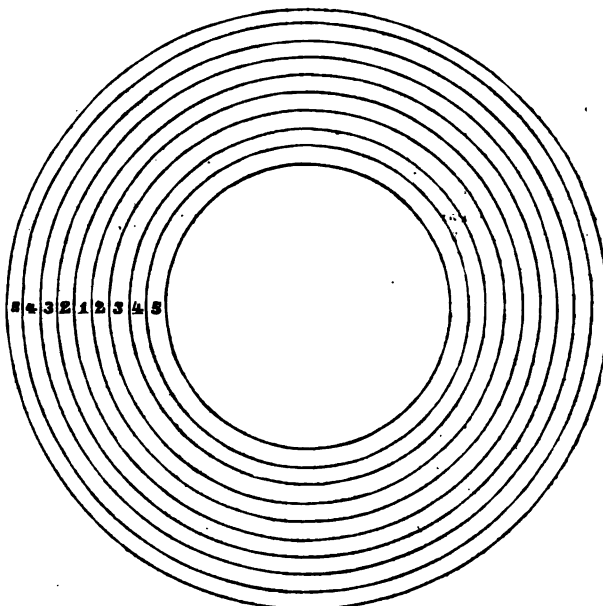
The villas and their gardens towards Inellan are at the base of a mountain whose side is deeply wooded, and good taste has made good use of this natural advantage, by the introduction of paths up the wooded ascent, and the display of the

falls of the mountain streams. The gardens before the villas are mostly lawns well garnished by flower-beds, though one gentleman preferring the useful to the ornamental, has converted his front garden into one large Potato-bed! This stern utilitarian, however, is alone in his stoicism, for all the other gardens evince, more or less, a just appreciation of the beautiful.

I had seen near London one central bed which to me was novel, and as here I saw its counterpart its introduction may be now permitted. The effect is excellent. Here it is surrounded by turf, but near London by gravel; and the gravel, I think, was the best contrasting surrounding.

At the foot of the first mountain on the Inellan Road is a combination, forming a little district, of what is comfortable and beautiful both in nature and art rarely to be met with. There is there a cluster of villas looking from the mountain side over the west bay of Dunoon; there is a mountain stream dashing over the rocks, and winding its course among the well-arranged, well-attended gardens; a lofty one-arched bridge takes you over that stream, among the villas, and to the foot of a road winding up higher through the garden of "the parsonage." In that garden—and from it "God's acre" is not separated—stands a small church, its walls trimly clad with Ivy and Cotoneaster. All is so beautiful: there is such a union between the house of God and the houses of men—it seems to so look down over them all, and they so seem to look up to it—that the words uttered on another mount seemed to be evoked as I stood by that sanctuary, "It is good for us to be here." Everything was in such exquisite keeping—not a weed, not a faded flower, not a thing to offend the eye—I recall it all, and there's not a repulsive remembrance. There three brothers lie; and I feel that to pass to their side,

and to have "In memoriam" inscribed as it is to them, would be like passing from one home to another. My old landlady, one of the Covenanter Hamiltons, told me—but erroneously—"It is a Puseyite place, and one Perry is minister." Without urging them to change their doctrines or their ritual, I heartily wish the disciples of Knox in Mr. Perry's vicinity would emulate his good taste and neatness both in externals and internals.—G.



- 1, Purple Orach, 1 foot high.
- 2, 2, Golden-edged Geranium, 9 ins.
- 3, 3, Yellow Calceolaria, 6 inches.
- 4, 4, Lobelia speciosa, 4 inches.

- 5, 5, Cineraria maritima, 2 inches.
- Centre, turf, 8 feet in diameter.
- Each circle about 6 inches broad.

THE SELECTION OF VERBENA CUTTINGS.

As the store plants of Verbenas turned out a failure last winter with many, I venture to urge the importance of having them well established in the store pots before winter. Here (in the west of Scotland), I find that the 1st of September is the latest period to which we can safely delay putting in the cuttings. I generally begin to do so about the middle of

August, by which time cuttings may be obtained without in the least disturbing the beds. I select shoots at least 3 inches in length, without flower-buds, if possible, and with prominent eyes at every joint; for without eyes they never make good plants, and to this cause I attribute the failures which occur in many cases. On examining the shoots previous to taking them

from the plants, many will be found eyeless, or blind, and such should be carefully avoided.

Four-inch pots are the most suitable size for store plants; crock in the usual way, half fill them with rotten dung, and then with about three parts finely sifted leaf mould to two parts river sand. Plunge the pots to the rims in leaf mould on an old hotbed, water sparingly through a fine rose, and afford a little shade in bright sunny weather. I find that *Verbena* cuttings thus treated strike freely, and can be kept satisfactorily through the winter.—JAMES REID.

LORD CLYDE STRAWBERRY.

I AM quite willing to have Lord Clyde Strawberry tested against the Old Chinese, but I must decline accepting the test from plants of Lord Clyde sent by Mr. Gloede. I will either send plants, or have plants sent from some other source, with a guarantee that they are the true Lord Clyde.

I have been intimately acquainted with Strawberries for nearly thirty years, and, therefore, think I have spent about "half a lifetime" amongst them, as Mr. Gloede says he has.—WILLIAM DEAN, Shipley.

WORK FOR THE WEEK.

KITCHEN GARDEN.

CONTINUE to plant out winter and spring vegetables wherever there is room. The culture of growing crops should be attended to when the state of the ground and weather will permit. *Broccoli*, the principal spring crop of Walcheren and of *Cauliflowers* should be sown. Sow thinly in an open place, and not in too rich soil, otherwise the plants will become gross, and less capable of withstanding the winter. *Cabbage*, another sowing of the different kinds may be made for spring planting, and likewise of the hardy *Cos* and *Cabbage Lettuces*, selecting a similar spot for the seed-beds to that recommended for *Cauliflower*. *Celery*, plant out. *Onions*, the main crops must now be pulled up and the roots exposed to the sun; this is the more necessary, because as soon as the bulbs have attained their full growth they will in a very short time begin to decay at the root or else strike root again into the earth, which is injurious to their keeping. *Potatoes*, taking up must now be vigorously prosecuted as fast as they become ready. *Parsley*, thin out and cut down a portion of the spring-sown, that a fresh growth may be made before winter; a part of the thinnings should be potted in 12-inch pots for removing to frames in winter. *Mushrooms*, as soon as a sufficient quantity of droppings is ready proceed to make a bed, if not already done. *Tomatoes*, to be kept thinned out, the shoots fastened to the wall, and the fruit well exposed. *Turnips*, it is not yet too late to sow for winter and spring use, for which purpose the ground where *Potatoes* have been growing is very suitable. *Shallots*, take up, and also *Garlic* for drying.

FRUIT GARDEN.

The value of the Strawberry as a summer fruit renders its successful cultivation a matter of some importance, the more especially as it comes within the reach of the humblest possessor of a garden. The present is the best season for making new beds. Strawberries thrive best in a deep rich loam and in an open situation. The land should have been previously trenched 2 feet deep and well manured, for Strawberry roots penetrate to a great depth. Select runners which have been layered into small pots for the purpose, or the strongest which have taken root from the older beds. If large fruit is an object a good space should be allowed them, say 2½ or 3 feet between the rows for the large-leaved kinds, and 18 inches between the plants. A somewhat less distance between the rows will suffice for the dwarfier-growing kinds: and where economy of space is an object see that an open situation is selected, for Strawberries never do well in close confined places, though there is a general opinion that they will grow anywhere. Water them during dry weather till they become well established. Pears and Apples, both on walls and espaliers, will now require to have the second growth spurred in, and the leaders nailed or tied in, as they require it. Keep the lateral growth of Vines removed, and the shoots spread out as openly as possible; they will need all the influence of the sun to attain anything like maturity. Figs must have the principal shoots nailed in, and the remainder taken off; suckers of the same must be constantly removed. All stone fruits should be gathered as

soon as perfectly ripe, as they seldom improve much by being allowed to become too ripe, and they will keep a day or two longer in a cool place than on the walls.

FLOWER GARDEN.

Cuttings of choice herbaceous plants, Carnations, Picotees, &c., put in early should be pricked out or potted immediately they are struck, to become established. Early-struck Pansies may be planted for autumn blooming. Young seedling Wall-flowers, Brompton Stocks, Sweet Williams, and other biennials should either be planted out into reserve-beds or where they are to flower. This year's beauty should assist to suggest next year's improvement in the distribution of the masses in the flower garden. Attention should be given to the effect, duration of bloom, habit, and colour of the different plants, and another arrangement planned for a future season. The propagation of scarlet *Pelargoniums*, *Verbenas* for stock plants, and *Calceolarias* should commence. China Roses should be put in, and budded Roses examined, bandages removed, and failures replaced. Mark the best Hollyhocks for seed. We are glad to see that this magnificent flower is meeting with the attention its beauty well entitles it to. At this season many florists divide and repot their Auriculas and Polyanthus. We consider it a good time for the operation, so that both young and old plants may become established before winter. Hollyhocks, Dahlias, and herbaceous plants must be made safe from the effects of high winds by securely fastening them to their supports. The like attention should be paid to climbing plants against walls and trellises, standard Roses, &c. Plants blown about by the wind give an appearance of negligence, which should by all means be avoided. Remove daily dead leaves, decaying blooms, and litter of all sorts, and frequently sweep and mow grass, that all may look clean and well-kept. Gravel walks should be frequently rolled during heavy rains to keep them firm. The general pruning of evergreen shrubs should now take place, reducing straggling growths within proper limits, but to avoid giving them anything of a formal character. The object is to assist, not deform nature. By this the general characteristics of each plant will be as much as possible preserved.

GREENHOUSE AND CONSERVATORY.

Should heavy rains continue to fall it will be necessary to remove to glass shelters of some kind the more delicate-rooted plants, and unless the weather be fine all the more valuable greenhouse plants out of doors will require housing. In our last calendar we advised shading of all kinds to be reduced in order to afford assistance in ripening the summer growth by an increased amount of light. We need scarcely point out that an abundance of air night and day should accompany the above; and, as an additional means of effecting a slow but progressive and effectual ripening of the summer wood, the atmospheric moisture of plant-houses should be gradually reduced as heat and the length of the days decline, so that an increasing dryness of the atmosphere may coincide with the ripening of the wood. We wish to lay particular stress at this season on the importance of well-matured wood to plants intended to bloom in perfection; while they will be found to bear the vicissitudes of winter with impunity compared with plants whose wood is soft and imperfectly ripened. The supply of water will much depend on the state of growth and habit of the plant. It should, however, be remembered that many plants are now actively forming roots, and will require water liberally, especially when subjected to a somewhat drier medium to grow in. The stock of hardy shrubs in pots for next season's forcing, if the growth is perfected, may be laid on their sides facing south, this will assist to ripen their wood and prevent their making autumn shoots. After a short time remove them to the shade of a north wall for the winter. No time should be lost in completing any repairs that may be required by houses devoted to the growth of plants. Continue to keep the conservatory gay with plants in bloom. Carefully tie-out the different varieties of *Lilium lancifolium* before they come into flower; two other good autumn-flowering plants should likewise have similar attention—viz., *Crowea saligna* and *Plumbago capensis*, these are invaluable at this season. Attend to the proper regulation of climbers, and give weak liquid manure to plants in bloom, to maintain them in vigorous health, and to assist the late flower-buds to open. Finish the potting of *Chrysanthemums*, and stake them securely as they advance. The stock of autumn and winter-flowering plants should not be stopped after this, but have every encouragement to ripen their wood early, that no difficulty may arise in

inducing them to bloom at the time wanted. Daphnes, Oranges of different kinds, Myrtles, and Gardenias intended for forcing, should be removed to a cool airy house to rest.

STOVE.

Many of the hardwooded spring-flowering specimens when kept growing late in the autumn, when there is not sufficient sunshine to properly ripen the wood, seldom flower strongly: therefore give every encouragement to such as have not made their growth, and use the shading very sparingly after this time. The twiners here will now be in their glory; keep them well supplied with water at the root, and give frequent attention to regulating the shoots and disposing the blooms in the most effective manner. The Allamandas are fine plants for pot-culture, but to have them in perfection they must be planted out in the border of the stove, and trained to the pillars or back wall, where they flower magnificently during a great part of the year. The brilliant *Clatodendron splendens*, the *Combretums*, *Echites splendens*, and *Stephanotis floribunda*, do splendidly when treated in the same manner, and trained near the glass.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

For the sake of the harvest we hope that a slowly rising barometer will be attended with more settled weather. The extreme changes from slight frosts in the morning to a close moist atmosphere almost resembling that of tropical climes will soon tell on the corn crops, and has already affected Potatoes unfavourably in many places. Had we plenty of ground to devote to Potatoes we would have a fresh field every year; and either plant on raised beds, as in many parts of Ireland, or in rows far enough apart and sufficiently raised for the water not to lodge about them. Most raised beds will be moist enough from the absorption of moisture from beneath, and then there would be a better chance of escape from the heavy autumn rains. In crowded gardens the only security will be found in planting early kinds and taking them up before the autumn rains come. As alluded to last week, we find that some fine samples of ours, clear and without a spot, are showing some specks of the disease after being housed dry and in the best order. This is most unaccountable.

Sowed more Cabbage seed, and Cauliflower for the main crop next season. In the case of those who have early light soil it will be time enough to make this sowing in the first week in September, or later. It is also a good time to sow a little Savoy seed and Scotch Kale, or Borecole, if these are wanted early next season. In England Scotch Kales are little used until they have been a little frosted; but in many parts in the north they are sown largely about the middle of August, and planted out and kept in beds like young Cabbages; and then in the spring, long before the Cabbages come in, the larger leaves are cut half in two, taking away the more tender part, and they boil beautifully tender either in broths or soups, or as a separate dāsh. We attain much the same object in England by sowing in spring and not cutting before winter, and all through the next spring we obtain a large quantity of nice stubby side shoots, so that the plants may well be called "cut and come again." The Tall Curled Scotch Borecole is the best for this continuous supply. The Scotch Cabbaging and a variety sent out by Mr. Veitch are the best dwarfs, yielding amazingly, and affording very late gatherings before they begin to run to seed. We instanced the other week the simple but important fact, that if a Cabbage plant runs to flower-stalk instead of forming a head, cut how you may, all the young shoots are almost sure to run to flower-stalks; and the converse of this holds so equally true that when we first grew the Cabbaging Colewort we thought so much of it, and were so doubtful of obtaining it true from seed, that we grew it several years by slipping off the side shoots in spring before they began to show signs of starting for bloom, and planting them; and though they looked a little wilted at first, they soon rooted and made excellent plants. The same will hold good in all the Cabbage tribe we have tried, but it must be done before the flowering or fruiting tendency has been regularly developed. When that has taken place it requires an extra amount of trouble and care to make a plant out of a flowering shoot. Hence in making cuttings of flowering plants we avoid the flower-stalks, and select firm side shoots, that we may first lay the foundation of the necessary amount of growth to carry the flowering process to completion.

Sowed also more Lettuces and Onions, the latter we will sow again in about a fortnight, and they will be generally the best for transplanting in spring; also sowed the first crop of Winter Spinach, to be followed by another sowing in a week or a fortnight.

Planted out more Cauliflower on a raised bank, young Coleworts on a tree border, under shade, not so good as in an open place; also Lettuces and Endive. Made up beds of Parsley where there were some blanks. Make a point of always having fresh ground for this, as otherwise it is apt to go off. It is difficult to account for failures at times; we sowed two pieces of ground in rows, each piece being as much alike as possible, and only a walk between them, and both pieces were treated exactly alike, as far as we could see, receiving about the same amount of seed out of the same packet, and yet one piece will bear almost any amount of thinning, and the other will require to be helped. We have a small row in an orchard-house, just coming through the ground, which will be found invaluable in bad weather in winter. Those who have no such convenience should now place some good plants in large pots or boxes, so as to afford protection in winter. To be without Parsley in winter is rather more uncomfortable than being without Mint in the height of the Pea season. Forward Parsley should now be cut well down to make it bushy before winter.

Celery.—We stated lately that some of the beds were acquiring a lighter hue in the foliage than we liked, and we may here note that the dusting of soot all over them, which has now been mostly cleared off by the rains, has made the foliage of a black green again. We would like to give them a good soaking, even after these showers, with strong house-sewage, as it generally does wonders, when the plants are thoroughly established, but at present we are afraid to have anything to do with it, in case the men should be injuriously affected in this muggy weather, and with the dread enemy Cholera hovering around us. As respects this sewage, two things are required from our scientific friends—a cheap disinfectant, and safe for a common labourer to apply; and, secondly, an assurance that when the odour is removed, the danger of affecting the human system will also be removed when the sewage is used.

Sow Thistle.—This has been a troublesome visitant to us this year, and generally in this neighbourhood, and is mostly confined to the variety of *Sonchus oleraceus*, having plain leaves serrated at the edge. In some places it looks as if it had been sown, but we know too well what even a single plant will do if left undisturbed to mature its seeds, and to scatter them by the wind, the fine down giving to each seed the wings with which it can fly. We have noticed that in the present season, this and the common field Thistle, far more difficult to extirpate, are more prevalent than usual by the sides of some highways. It would be a wise act if our Legislature were to compel the surveyor of highways, or those holding lands adjoining, to at least cut every Thistle before it bloomed, if not take it up by the roots, in the case of the common Thistle. Even in the case of the Sow Thistle, if a single flower-head should have changed its yellow blossom for the head of down, it would be wise policy to go and pick all these heads off before attempting to cut up or pull up the plant, as the very act of pulling or cutting, will be sure to spread the seeds, and the first brisk wind will do so without our aid. As to pulling up this Sow Thistle, it is next to impossible in most soils, the stems are so brittle, and the roots are so strong; and as to cutting the plants over at the surface of the ground, or a little below it, that is only a temporary relief, as they will send up numerous shoots from the collar; but if cut 1 or 2 inches below the surface there will be little more trouble, as from the annual character of the plant, the fleshy roots will soon decay, if there is no reciprocal action from leaves and stems above ground. If the annual character of the plant is kept in mind, there will be no necessity for grubbing up the roots with a fork or mattock, as in the case of the common Thistle. But however cut or grubbed, just as in the case of the common Groundsel, it is never advisable to leave large plants on the ground when so cut up, or to remove them to that general receptacle, called the rubbish-heap, but which may be made one of the best adjuncts to the garden, as then from the juice contained in the succulent stems, the seeds will often be perfected and scattered. It is better in every way to remove such plants to the burning or charring heap, where the excessive heat will destroy all seeds even when imperfectly formed.

Upon the *cui bono*, what-good? principle, a very favourite topic with our utilitarian philosophers, but which may be carried too far when everything is ignored for which in their

wisdom they can perceive no utility, a great deal cannot be said for the Sow Thistle; and yet there may be something advanced in its favour. On the principle that observing and working are in themselves blessings to mankind, then for keeping the eye of the cultivator open and his hands active, the weed has its use; and besides that, swine like it, and other domestic animals, and rabbits are especially fond of it; also, when its young shoots and leaves are nicely boiled it forms, in our estimation, a better substitute for garden greens than even the blood-cooling shoots of young Nettles. Then there may be circumstances in which a piece of this ugly weed might be useful, could we by canvas or fine wire protection prevent its seeds being dispersed over the neighbourhood, just as if we had a large collection of the feathered race, we would most likely appropriate a piece of our garden thus duly enclosed to prevent the egress of the winged seeds, to growing Groundsel for the sole delectation of our birds. All such fancies, however, should ever be kept subordinate to the general advantage. The good considerate man would not, and the inconsiderate man should not, be allowed to ride a favourite hobby so as to injure his neighbours or do mischief to the whole community. The man who carried and sowed the seed of the common Thistle in Australia, where it had never previously been seen, might have had plenty of enthusiasm for the rugged emblem of old Scotland, but he could have formed little idea of the extra toil and labour he was securing for all future cultivators in that land.

Calystegia, or *Convolvulus*, *sepium*.—Having said thus much on the Sow Thistle, we may notice that this plant, the Bindweed or Bearbind of our gardens—producing now where it only partly had its own way its luxuriant twining shoots and green foliage, and its large milk-white flowers—is one of the worst weeds that can find its way into any garden where the soil is at all stiff and moist, as in these circumstances it especially delights. We can see its pretty flowers where we do not want to see them, and this result has been assisted by the rapid growth during the moist weather, when the hoe was apt to be let alone. The long white roots, which if let alone would soon net a piece of ground, are meddled with by but few animals, except pigs, and are difficult to eradicate, as almost every inch will send up a shoot, and that will soon be followed by the extension of the roots and numerous other shoots. Digging out these roots at every change of cropping is all very well, only it is difficult to take all out and not leave a little bit behind. The simplest plan of eradicating this beautiful but dreadful pest, is a continuous use of the hoe, and cutting up every shoot before it attains more than 2 or 3 inches in length. Where the labour power will permit of that being regularly done, the plants will die out, as even the long, white, fleshy roots will decay, if no shoots from them are allowed to be seen above ground. When permitted to grow so as to show a single flower, it would require continual cutting-in a future year to paralyse the energy of the roots.

The Small Bindweed (*Convolvulus arvensis*), which produces according to the variety its white or pinkish flowers on the small trailing shoots, may have its roots destroyed in the same way, or by cutting off the crowns and placing a good pinch of salt upon them. The roots of this, like the Bearbind, are difficult to eradicate, as the smallest piece left in the ground will grow; but, as in the former case, if no shoots are allowed in summer, the roots having no outlet for their juices, and no fresh matter added, will at length die of starvation. There are few plants that would not be killed in time by a similar process, but the action must be continuous.

FRUIT GARDEN.

Regulated trees as previously described. Went on with potting Strawberries in the manner stated the other week, the wet intervals giving a good opportunity for washing pots well previously to using them, for we have less faith in a dirty pot than in almost any other dirty thing; and one reason why some of our window gardeners fail is that they use the same pot over and over again before thoroughly scrubbing it inside and outside. Sometimes in the spring, when pots are used frequently, being filled as soon as emptied, we content ourselves with washing the inside merely; but in all cases where the plants are to remain some time in the pots, these pots should be well washed inside and outside, and be well dried before using.

Went over the orchard-houses, exposing the fruit more to the light, and even lessening the number of those most crowded, as it is better to do this late than never. As the fruit would come in too soon for us, we have shaded one part of a house a

little, though aware that it will not improve the colour or the flavour; but we most likely will have the glass exposed enough before the fruit ripens. We find that as a general rule in these cold, merely glass-covered houses, there is always a danger of leaving too much fruit, as it generally sets so thickly. As soon as we can find time, we will plant out a good many runners of Strawberries rather thickly—say from 4 to 6 inches apart, and these will come in well for forcing late, and making fresh plantations in spring, if it be desirable to do so. As soon after this as possible, we will clear away the runners from all Strawberry plants we intend to remain, and dig, or rather trench down all those we intend to remove, filling the space with winter stuff, late Celery, &c., so as to secure the advantages of a rotation of crops. We will also break up where there are a few blanks, a border of Cuthill's Black Prince, and plant some more, as though its dark colour when thoroughly ripe may be a drawback in the estimation of some, its great bearing qualities, and the firmness of its substance, render it one of the best for preserving purposes we know. This we are given to understand, that many who make much jam, will have no other sort so long as Black Prince is to be had. In our opinion it is far before the old Scarlets, Grove End, &c.; but every one to his fancy.

In our rather stiff soil we thus generally manage plantations of Strawberries. Trench the ground well, incorporating with the lower 12 or 18 inches about 3 or 4 inches, or more, of what we can lay hold of in the way of manure. When the ground is dryish on the top, we point-in a layer of 2 or 3 inches of rotten hotbed manure, generally consisting of leaves and litter at first. We then turn out plants in rows 2 feet apart, and, according to kinds, from 12 to 15 or 18 inches apart in the row, making the ground firm about the plants, and then to prevent cracking, either pointing the surface somewhat roughly with the point of a fork, or throwing a little rotten dung over it. From that time, besides cleaning the plants, merely breaking the surface of the soil, and placing a little manure between the rows in winter, allowing all the leaves to remain on during that season, and dressing them a little in the spring, the plants have no more of the spade until, two or three years after planting, they are transferred to the bottom of a trench. Except plants that have been forced, we plant none in the summer or autumn, as from scarcity of ground that would deprive us of a winter crop; but we plant early in spring, lifting with good balls those runners that we prick out now. Of course, to save labour, we would rather plant out in the autumn. By planting in spring we can make more sure of every plant being fruitful, and after all that has been said and done, we think it worth while to select young plants as much as possible from fruitful parents. At any rate, we once had a patch of fine-looking Keens' Seedling that in three succeeding years never showed a bloom, and the runners from them were equally barren. We wish now that some experiments had been made to render these fine-looking barren plants fruitful.

If the ground is light and sandy, it would be well after trenching for Strawberries, to roll it well before planting in a dry day, and then give a mulching of rotten dung. The only way to make light soil support a Strawberry crop equal to one with more loam and consistence in it, is to make it as firm as possible, but so that the surface may not be cracked or fissured.

ORNAMENTAL DEPARTMENT.

Of this more anon. Much the same as to keeping lawns and walks right, looking over flower-beds, regulating them when necessary, preparing for cuttings, planting Violets, potting and attending to greenhouse plants, regulating climbers, so that the sun may have more free access to the plants as the days become shorter, &c.—R. F.

COVENT GARDEN MARKET.—August 18.

		Fruit.					
		s. d.	s. d.			s. d.	s. d.
Apples	.....	½ sieve	2 0 to 2 0	Melons	.....	each	2 6 to 5 0
Apricots	.....	doz.	2 0 4 0	Nectarines	.....	doz.	4 0 8 0
Cherries	.....	lb.	0 4 1 0	Oranges	.....	100	12 0 20 0
Chestnuts	.....	bush.	0 0 0 0	Peaches	.....	doz.	10 0 12 0
Currents	.....	sieve	5 0 6 0	Pears (dessert)	.....	doz.	1 0 2 0
Black	.....	do.	5 0 8 0	Pine Apples	.....	lb.	8 0 0 0
Figs	.....	doz.	2 6 4 0	Plums	.....	½ sieve	7 0 0 0
Filberts	.....	lb.	0 6 0 0	Quinces	.....	½ sieve	0 0 0 0
Cobs	.....	100 lbs.	0 0 0 0	Raspberries	.....	lb.	0 6 0 0
Grapes, berries	.....	quart	0 4 0 0	Strawberries	.....	lb.	0 6 1 0
Groceries, Hothouse	.....	lb.	2 0 5 0	Walnuts	.....	bush.	6 0 8 0
Lemons	.....	100	6 0 10 0				

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes each	0	2 to 0	4	0	2 to 0
Asparagus bundle	6	0	8	0	1
Beans, Broad bushel	5	0	0	0	0
Kidney .. ½ sieve	2	0	3	0	0
Beet, Red dos.	2	0	3	0	0
Broccoli bundle	1	0	1	6	0
Brus. Sprouts ½ sieve	0	0	0	0	0
Cabbage dos.	1	0	2	0	0
Capecums 100	0	0	0	0	0
Carrots bunch	0	4	0	8	0
Cauliflower dos.	2	0	6	0	0
Celery bundle	2	0	3	0	0
Cucumbers each	0	4	1	0	0
pickling dos.	0	0	0	0	0
Endive dos.	2	0	0	0	0
Fennel bunch	0	3	0	0	0
Garlic lb.	1	0	0	0	0
Herb bunch	0	2	0	0	0
Horseradish .. bundle	2	6	4	0	0
Leeks bunch	0	3	to 0	0	0
Lettuce per score	1	0	1	6	0
Mushrooms pottle	1	6	2	6	0
Must. & Cress, punnet	0	2	0	0	0
Onions dos. bunches	4	0	6	0	0
Parsley ½ sieve	2	0	0	0	0
Parasips dos.	0	9	1	6	0
Peas per quart	0	9	1	3	0
Potatoes bushel	2	0	5	0	0
Kidney do.	3	0	6	0	0
Radishes doz. hands	0	6	1	0	0
Rhubarb bundle	0	4	0	8	0
Savoy dos.	0	0	0	0	0
Sea-kale basket	0	0	0	0	0
Shallots lb.	0	8	0	0	0
Spinach bushel	2	0	2	0	0
Tomatoes per dos.	2	0	4	0	0
Turnips bunch	0	4	0	6	0
Vegetable Marrows ds.	0	9	1	0	0

TRADE CATALOGUE RECEIVED.

W. Dillstone, Munro Nursery, Sible Hedingham, Essex.—
Catalogue of Choice New Plants for 1886.

TO CORRESPONDENTS.

.. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

ANALAS (A. A. H.).—Your Analas are attacked by a grub which is eating the young tips. Syringe them with Gishurst compound.

BOOKS (A Constant Reader).—We think that the "Vine Manual" which may be obtained at our office for 2s. 6d., or free by post for 2s. 8d., and "Vine Culture under Glass," by Mr. Pearson, 1s., or free by post for thirteen penny stamps, would suit your requirements. (F. J.).—Hogg's "Fruit Manual," price 5s., or free by post 5s. 4d. (A Young Gardener).—You can obtain "The Modern Peach Pruner" at our office for 2s. 6d., or free by post by enclosing forty-four postage stamps with your address.

EGG PLANT (A. Foot).—The plant was introduced into this country in 1897. The fruit is cut in slices, and fried with lard; or, after cutting it in half, parboiling it, and scooping out the seeds, it may be stuffed with various herbs and bread-crumbs, and fried or baked until brown, adding various seasonings according to taste.

GERANIUM LEAVES EATEN (A Subscriber).—We have had to encounter the same enemy in our greenhouse. The pest is a green fleshy grub, about 1 or 1½ inch long, which you may detect by examining the under surface of the leaves of your Pelargoniums. The only remedy is to hunt closely after them and destroy them. They do burrow in the earth; but only to go into the chrysalis state.

BLANCHING CARDOONS (F. N. S.).—The Cardoons, now 18 inches high, may have the leaves tied closely and regularly together with strips of matting, and have a little earth placed around them, as in earthing-up Celery. By the middle of September they will have grown amazingly, and will need final earthing-up for blanching. This you will best do by means of a hayband; gathering the leaves regularly together and beginning at the bottom, wrap the hayband round the plants to within a few inches of their tops, and lay up soil, broken fine, about them as high up as they are tied. If the haybands cannot be procured, then tie up the leaves with matting and place straw or dry litter about them, tying that up with matting, and earthing-up as before directed. The plants earthing-up from the middle of September to the end of that month, will be fit for use in the end of October and onwards to December, earthing up again if necessary, and protecting in frosty weather with a covering of dry litter. In gathering, the plants are taken up like Celery, and the outer leaves removed until the blanched heart is reached. This has the same appearance when dressed as an immense stick of Celery, is stewed like it, and used in soups.

GARDEN WALL (Allerton).—The thickness of "single brick" with which you intend to raise your wall, supported by piers at 4 feet distance, will answer perfectly. The only difference will be, that you will not secure such an amount of radiation from the 4½ that you would from the 5-inch work. The contrivance for a coping is very ingenious, and will, no doubt, be effective; but why do you give it an upward direction? We should prefer it inclining downwards, as it will more readily prevent the free ascent of warm air passing off from the wall. We should have these copings of nine-inch boards, to be screwed on the brackets and removed after the spring frosts have gone; they are always unsightly. We cannot advise you on the price of the masonry, as that varies very widely in different parts.

PLANTING ANEMONES (G. C.).—The tubers are best kept on a shelf in a cool dry shed, and covered with an inch or so of dry sand. The best time to plant them for early blooming is October. In January go over the bed and stop up any holes made by worms, or the leaves protruding, and top-dress with an inch of half-decayed leaves. Choose a rich light loamy soil, and an open situation. Plant 3 inches deep, and from 7 to 9 inches apart, with a gentle pressure only, as the tubers are fragile, employing a little care in placing them so as to set the right end upwards, and let the ground be dry rather than wet.

Tobacco Drying (Nicotiana).—The leaves are to be gathered when they assume a yellow tint, tied in small bunches, and hung up in some shady airy place to dry. When crisp watch for the first humid state of the atmosphere, when they will become soft, and pack them evenly in a box with the ends or butts all one way; press moderately, and a slight heat will be generated. Whilst warm take out the bunches, shake in the air to let off the heat, repack lightly, and, when thoroughly dry and cool, store tightly in a barrel, and keep there for use. The leaves which turn black and smell disagreeably will not be spoiled if you dry them, but if fungus attack them they will lose their virtue.

PRUNING GOOSEBERRY AND CURRANT TREES (Gregory).—You must now wait until the leaves fall, and then thin out the main branches so as to leave them from 6 to 8 inches apart, keeping the centre of the bushes open. The shoots of the current year are to be cut in to within an inch of the branches whence they take their rise, leaving untouched any short shoots having the buds very close together, as these spurs and the buds set closely together at the base of this year's shoots produce fruit in the following year. The upper shoot of this year on the main branches may be cut back to four or six buds according as the bushes are required to be larger or kept to their present size. Any old branch destitute of spurs may be cut out, and a well-disposed young shoot retained to replace it.

PRUNING PLUM AND APRICOT TREES (Idem).—The foreright and all shoots not required to train in at 9 inches apart should now be shortened to four leaves, leaving the shoots necessary to cover the wall regularly at 9 inches apart, and the leading shoots at their full length. Nail these loosely to the wall.

MANURING FRUIT TREE BORDERS (Idem).—You may dress them in autumn with 1½ or 2 inches thick of stable or hotbed manure, leaving it on the surface, and pointing it in in February or early in March, but not so deeply as to injure the roots. The rains will wash the manure into the soil.

MANURING A VINE BORDER (Idem).—You may cover the border in November with 6 inches of litter or half-reduced manure, and allow it to remain until March; then remove the straw portion, and fork the short dung in without going so deep as to affect the roots. In April you may give a surface-dressing of bone dust, leaving it to be washed in by rains.

BED FOR TULIPS (Idem).—After the Geraniums are removed, dig the bed a foot or 18 inches deep, work in a dressing of rotten manure 8 inches thick, or leaf mould. Plant in November, or early in December.

LAWN MOWINGS (Idem).—These are of no use for the formation of leaf mould; that and garden refuse generally form, when rotten, a good manure for kitchen garden crops.

EXCRESCENCES ON THE STEMS AND BRANCHES OF VINES (A Subscriber).—The warts, we apprehend, are caused by the roots having gone down into cold bad soil, and to a considerable depth below the surface. The Vines, consequently, having lost most of their fibres are seeking to furnish themselves with surface roots, and the excrescences are the parts from which such roots would be emitted under suitable conditions. Your only remedy is to have the roots brought nearer the surface.

ROSES FOR A WIRE FENCE (Abletide).—The best Roses for either a low or high wire fence are the climbing Ayrshire Roses.—Dundee Rambler, Raga, Queen of the Belgians, Myrrh-scented or Splendens, Thoresbyana, and Alice Gray; Rose multiflora vars., Purpurea, Russelliana, and Laure Davoust; and of the Evergreen kinds, Brunoni, Rampante, Felicité Perpetue, and Myrianthes. On a fence 4 feet high these should be planted from 9 to 12 feet apart.

RED SPIDER IN MELON-FRAME (Cypher).—Your only plan is to syringe the plants on a sunny day about 2 P.M., and, whilst wet, to dust over them flowers of sulphur; then close the frame, cover the lights with a thin mat, and keep the plants well supplied with water at the root. Syringe overhead every alternate day early in the afternoon, and close the frame, throwing a mat over the lights if the afternoon be clear, removing it at 4 P.M. In a week dust again with sulphur on a clear day, having previously sprinkled the foliage with water, close the frame, and cover up.

STRAWBERRIES FOR FORCING (Idem).—Take pots 4½ inches in diameter for the Black Prince, and six-inch pots for Keens' Seedling; place a piece of crock over the hole, over that an inch of the rougher parts of the compost, and then sprinkle over the latter a pinch of soot; fill the pots to the rim with a compost of two-thirds turfy loam from rotted turves, and one-third well-rotted manure, making it very firm in the pots. Having prepared the pots, take them to the beds, and place in the centre of each a good runner, keeping it in its place by a stone set on the side next the old plant. If well supplied with water, the runners will by the middle of September be strong, and may be detached from the parent by cutting, and removed to a sunny open situation, where they should be well supplied with water up to the middle of October, after which the soil is only to be kept moist. After November plunge the pots in coal ashes to protect the roots from frost. In February set them on a shelf in theinery about 15 inches from the glass, the shelf having previously been covered with turves 1½ inch thick, placed grass downwards. Keep the soil moist, but not very wet, until the plants come into bloom, when they should be very liberally supplied with water and air, admitting a little at night. With abundance of air, a moderate temperature, and a light situation, we think your plants would please you. Give them liquid manure after the fruit is set.

PROLIFEROUS ROSE (A. R. Browley).—Yours is not a singular case of morphology. It arises from an elongation of the axis beyond the point where it is usually arrested in the normal form of the Rose.

INSECTS ON PEAR LEAVES (W. Berry).—The insects were slimy grubs, the larvae of *Belandria ethiops*, which are of common occurrence in July, August, and September. Dust with lime.

INSECTS (S. B.).—We do not know what the insects are, but they are quite harmless, and are certainly not thrips.

RED SPIDER ON ORCHARD-HOUSE PEACH TREES—APRICOOTS LATE IN RIPENING (A. E. C.).—You must continue to syringe your Peach trees in the morning; the flavour of the fruit may suffer a little, but better that than allow the trees to be weakened by red spider. Your ventilation must be deficient, or perhaps your orchard-house is in a confined position, for our trees treated as detailed in page 87 are perfectly free. You may safely syringe the trees after the fruit is gathered with the decoction of quassia chips, 4 ozs. to the gallon, boiled ten minutes, adding to it while cooling 4 ozs. of soft soap. This will injure neither leaves nor buds. You should have kept that part of your house in which are the Apricot trees warm as soon as the fruit commenced to swell towards ripening. The trees would have remained healthy, and the fruit would have ripened early. Apricots are easily retarded by abundant ventilation, while Peaches and Nectarines often ripen freely with it in sunny weather. All the ventilators may be open in October and November, except in stormy weather, when the entrance of a violent gale may do mischief.

VICTORIA NECTARINE (J. W. G.).—Your own surmise is a correct one. There is no doubt but that the unusual weather of the present summer has been unfavourable to the ripening of all fruits that prefer and require a warm and bright season; and the Victoria Nectarine is one of those.

DRYING FERNS (E. B.).—Gather the ferns when they are perfectly dry, and spread them out neatly on sheets of paper—old newspapers will do very well; pile them one over the other, and cover with a piece of board, on which put as much weight as will keep them perfectly flat. Change the papers, or dry them once a-day, and in a few days the ferns will be quite dry.

NAMES OF PLANTS (Lachenalia).—We cannot do anything with the plants unless you attach numbers to them. Thanks for the returns of rainfall, but we must decline them till the end of the year, when we shall be pleased to publish the observations for the year. The two Numbers which you name will be sent free by post for eight penny stamps. (*Rodolph*).—1, *Stachys sylvatica*; 2, *Epilobium hirsutum*; 3, *Verbascum nigrum*; 4, *Senecio sylvaticus*. (*Erica*).—1, *Erica cinerea*; 2, *Erica cinerea* covered with *Cuscuta europæa*; 3, *Calluna vulgaris*; 5, *Erica vagans*. (*J. B.*).—1, *Adiantum capillus-Veneris*; 2, *Adiantum cuneatum*; 3, *Pellaea adiantifolia*; 4, *Platylova rotundifolia*; 5, *Nothochloa rufa*; 6, *Pleopeltis nuda* (?); 7, *Onychium japonicum*; 9, *Pellaea ternstroffia*; 10, *Aspidium molle*; 11, *Davallia elegans*; 12, *Platycaurium alcidornis*. (*H. T. W.*).—1, *Lysimachia vulgaris*; 2, *Kerria japonica fl. pleno*. (*S. A. N.*).—Probably *Lastrea punctulata*. (*Hypericum*).—The Violet, *V. cornuta*, is not a native plant.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending August 18th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun... 12	29.760	29.645	68	53	61	58½	W.	.10	Drizzling rain; overcast; slight rain.
Mon... 13	29.892	29.845	71	52	61	59	W.	.07	Overcast; very fine; overcast; slight rain.
Tues... 14	29.841	29.730	68	45	62	59	W.	.01	Drizzly; overcast; densely overcast; very fine; rather cold.
Wed... 15	29.908	29.823	65	47	62	59	W.	.00	Fine; cloudy and fine; cloudy and fine at night.
Thurs... 16	29.735	29.626	65	46	62	59	S.W.	.05	Overcast; rain; very fine; clear.
Fri... 17	29.848	29.714	67	38	61	58½	W.	.00	Cloudy and cold; fine; cloudy and fine; cold at night.
Sat... 18	29.943	29.866	75	36	60	58	W.	.00	Clear; very fine; clear; only 4° above freezing at night.
Mean	29.858	29.751	68.48	45.14	61.28	58.70	..	0.23	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

VULTURE HOCK IN COCHINS AND BRAHMAS.

"A QUESTIONING BRAHMA" has again mooted this point, and the reply is, "Why were they ever produced?" This is, in fact, the question asked, and I suppose I must take it and the context as the reply to my challenge, of which "JUSTITIA" speaks, given so many months ago, to which, in truth, I felt confident that "silence had given consent." Is it worth while to open up all this question again? I am certain the "Judge" will never convert me; and as far as I can make out, there is only one judge who holds the opinion that moderate vulture hock is not a necessary qualification of a thoroughly good Brahma. I have been led to this belief by the career of my old cock, "Champion." In his long life he has made acquaintance with a great number, and some variety, too, of judges. I may say that with the great majority of them he has been on most friendly terms, and they have constantly expressed their good opinion of him. Once, and once only, did Mr. Hewitt, allowed by all to be the most able judge we have, ever omit to notice him. It was in a very large class, and I am quite convinced it was an oversight, and "Champion" forgave him, as he never bore malice, and within a fortnight, in a severe competition, Mr. Hewitt awarded him first prize. Since then the gentleman to whom Mr. Hewitt awarded the first prize at the exhibition where "Champion" was unnoticed, wrote to me for birds, saying he had remarked my pen at the show, and he considered them "perfect," though somewhat smaller than his own. This gentleman knows as well as the "able Judge" what a good bird is, and whenever he exhibits, which is not often, his specimens are always near the top, if not quite there. "Against this I place the other fact, that at the only shows other than that mentioned, where Champion has remained unnoticed, the same judge, whom I fancy (rightly or wrongly, I cannot say), to be the "Judge" replying in "our Journal," is the awarder of honours. Now does not this appear like an isolated opinion against the moderate vulture hock and a host in favour of it? Against it we have the "able Judge's" unsupported opinion, for I trust I am not mis-stating the case; no single exhibitor has given in his adhesion against the hock, at least to my knowledge. What have we in favour of it?—all the judges whom old "Champion" has had the pleasure to meet; the majority of breeders; the "Standard of Excellence;" Mr. B. P. Brent, no light authority; our Editors; the "Poultry Book," brought out at the time of the Cochins fever and before

Brahmas were scarcely known; and, lastly, that which I before advanced, and which no words of the "Judge" can possibly refute—the fact that the drawings of these birds, as in their earliest days they were presented to Her Majesty, are unmistakeably vulture-hocked birds.

I might rest the case here, I think; but before I close, I will, however, further glance at the reply attached to "A QUESTIONING BRAHMA's" letter, "There was an attempt at the second London Show (the italics are mine) to admit the vulture hock." Is this allowed? Then, I ask, wherever did it spring from, if not from the birds themselves? Thus early the vulture hock intrudes itself. The "Judge" supposes some freak or cross, but he does not explain how this was possible. Ptermignans, Serai Taook fowls, if I recollect rightly, were not then introduced, and the old booted Bantam alone enjoyed the appendage; but it is impossible that Cochins and Brahmas derived it from this source. Whence, then? The Gwynne Cochins and the Sturgeon Cochins, I know personally, never patronised the naked hock that disfigures many Brahmas and Cochins now-a-days. "Evidence was at once collected, &c." he continues, but where is this evidence to be found? Nobody knows. Surely, the "Poultry Book," written in the very height of the Cochins fever, would not have committed itself to the opposite opinion, or, at least, would have noticed this evidence. Possibly, too, there is another reason why the first imported birds should have been naked-hocked; I say this, taking it for granted they were so, but unable to credit it. It is quite possible that the natives valuing the moderate vulture hock, would not part with these birds until the prices rose to the fabulous amounts all of us who recollect the period can remember.

But he continues—"If the objection to the vulture hock were new, or only just published, then those who possess vulture-hocked birds might justly complain, and ask why they were excluded from competition; but they have always been excluded." I pass over my own personal experience of Brahmas, fairly successful. I have kept them a dozen years, and always more or less vulture-hocked, and I ask, What can our "Judge" mean by "exclusion from competition?" Is his memory so short that he cannot recollect the grand show at the Agricultural Hall, Islington, two years or so ago? In the largest class of Brahmas that had ever been seen, and in a most severe competition, a vulture-hocked pen was awarded first prize, and though on all hands it was allowed that the second-prize pen ought to have been first, I never heard that any objection would have been raised to this pen receiving second prize; and if "always excluded," how is it that my old "Champion"

should never have been excluded from the prize list, except at the two or three shows I mention?

Many years ago, in my early Brahma days, I asked the judge of an exhibition why he had not awarded a prize in a single cock Brahma class, where a friend of mine and I were the only exhibitors. He replied, the one bird was poorly feathered, and the other (mine) had a peacomb, which he considered incorrect. Where is that judge's opinion now? Does any one hold it? Is the hook a parallel case?

Our Editors' note to "JURISTIA'S" letter, which appears in the same Number, I cannot quite pass over. No one can accuse me of slighting my favourite breed; through the bygone years of evil report and scandal that attached to their origin, their good qualities made them my favourites; I will not desert them now, when I so constantly read that at such an exhibition the Brahma class, which I have lived to see added to almost every meeting of importance, was without exception the class of the show. With the greatest deference to our Editors' opinion, I do not see how Brahmas can expect two classes (according to hook feathers). Funds would not permit it, and at many exhibitions they are already divided into dark and light. If granted to Brahmas, why not to Cochins? Rather, I would say, let the "Judge" give up his opinion; he may still hold it, but there is no reason that he should judge by it. Let him award the prizes irrespective of moderate vulture hook, and I am quite sure our covered-hook birds will beat their naked brethren out of the field.

One more word to my brother exhibitors. I am one of those who think that with the general run of honourable judges that we have, exhibitors should know who are to be the judges of the exhibition to which they send their specimens. It would then rest with them to decide whether they would send their specimens to be certainly defeated, thus throwing away their entrance money, increasing railway revenue, but receiving no kind feeling in return, and injuring their specimens. By watching the names of the judges where they show, they will find out the fancies of each and act accordingly. They can enter their specimens with the reservation that the entrance is only to be paid if Mr. So-and-So do not award the honours.—Y. B. A. Z.

As the originator of the discussion on the vulture hook in Cochins and Brahmas, which was carried on in your Journal last spring, may I be permitted to make a few remarks on the same subject on the occasion of its revival? I wrote in the first instance as an inquirer, not prepared to find that opinions so diametrically opposed to one another existed on a question which surely ought to be decided either one way or the other. Consequently, I was prepared to give the subject an impartial consideration. I will now venture to lay before you, with all deference to those more experienced breeders and exhibitors, who have far more right to be heard than I can claim, the results at which I arrived. I will endeavour to state these as briefly as possible. They may be summed up as follows:—

1st, A want of agreement among Judges.

2nd, The want of a better understanding between Judges and exhibitors, for which the former are to blame.

3rd, A want of a clear and unmistakeable definition of the "vulture hook."

Respecting the first of these, I have gathered from the correspondence that it exists. I need say no more. Respecting the second, I say advisedly, that "the former are to blame." No impartial critic, weighing well the correspondence in your pages, could arrive at any other conclusion than that, while on the part of breeders and exhibitors there was every wish to state not merely their opinions, but also their reasons, at once as distinctly and as courteously as possible, on the part of judges no corresponding courtesy was shown. If I remember rightly, a few brief words of reply from one judge, based, as was shown by succeeding correspondents, on a mistake, but, nevertheless, repeated, apparently by the same judge, in your last week's impression, formed the only notice taken by that body of the discussion. This treatment speaks for itself, and, therefore, on my second conclusion also I need say no more, but will at once go on to make a few remarks on my third conclusion—viz., that we need a clear and unmistakeable definition of the vulture hook. Here, too, I feel sure that judges and exhibitors ought to be agreed, though from the silence of the former we might almost argue that they are of a different opinion. Is it possible, that for the sake of exercising a little arbitrary power, with the love of which one has been accustomed to associate a certain amount of narrow-mindedness, those judges (for, of

course, I allude only to them), who are sworn enemies of the vulture hook, keep us in the dark as to which birds they consider and which they do not consider to be thus disqualified?

It appears to me that this question would be best settled by a certain amount of compromise. I have gathered that exhibitors are agreed that there are at all events two different developments which go by the name of the vulture hook. These are—1st, the *vulture hook proper*, where stiff, straight quill feathers project from the hook; 2nd, the *vulture hook simulative* (if I may be allowed the expression), where the soft finny feathers of the leg—which I hope we are all agreed cannot be too abundant—owing to their very luxuriance project a little beyond the hook, sometimes curving towards it, sometimes assuming a more pointed appearance. Now, the compromise which I have to suggest is as follows: Let judges give us some assurance that they will restrict their definition of the vulture hook to the first of these—the vulture hook proper; and I feel sure that breeders in general would be willing for them to go even beyond the dictum of the Poultry Club, and consider it not only an objection, but also an absolute disqualification, on the distinct understanding that what I have termed the vulture hook simulative be regarded not only as no disqualification, but on the contrary as an exuberance of beauty.

I could not but regret to find that one whom you describe as an able judge bases his condemnation on the fact that the originally imported Cochins were not vulture-hooked. Have the imported birds been always the best specimens of their kind? On the contrary, have not careful breeding and matching developed in almost every imported breed qualities nascent only in the originals? Does not the case of wild flowers under cultivation, in their tendency to become double, form a fair parallel? If so, why should we in our greenhouses and gardens rejoice over it, but in our poultry yards condemn it?

I will now, lest you should think that I have exceeded all bounds in the length of these remarks, leave the suggestions which I have thrown out for the consideration of others; venturing only in conclusion most respectfully to invite the judges of poultry to declare their opinions on the subject, as well as to seek to arrive among themselves at some consistent and unanimous opinion, thereby securing at once the increased confidence and the sincere gratitude of every breeder and exhibitor.—CLERICUS.

CRAVEN AGRICULTURAL SOCIETY'S POULTRY SHOW.

THE twelfth annual meeting of this Society was held at Skipton on Friday the 17th inst.

The display of poultry was good, and the number of entries large, but from the advanced state of moulting in which the adult birds at present are, these were extremely difficult to judge. The great attraction of the Show was the chickens of this year, in almost every class of which there were some most beautiful specimens. The *Pigeons* were also numerous, and of excellent quality. The following prizes were awarded:—

DORKING (Any colour).—First, H. Beldon, Gollstock, Bingley. Second, J. Pinder, Clitheroe. Commended, T. Briden, Earby. *Chickens*.—First, A. Fenton, Rochdale. Second, J. Stott, Healey, near Rochdale. Commended, H. Beldon.

SPANISH (Black).—First, H. Beldon. Second, J. Thresh, Bradford. Commended, J. Newton, Silsden. *Chickens*.—First, J. Pinder. Second, J. Newton. Commended, H. Beldon; H. Pickles, jun., Earby.

GAME.—First, H. Beldon. Second, J. D. Newsome, Batley. *Chickens*.—First, J. Carlisle, Earby. Second, W. Turner, Earby. Commended, J. D. Newsome.

COCHIN-CHINA.—First, H. Beldon. Second, C. Sidgwick, Keighley. *Chickens*.—First, A. Fenton. Second, C. Sidgwick. Commended, J. Stott.

HAMBURG (Golden-pencilled).—First, H. Pickles, jun. Second, S. Smith, Northampton, Halifax. Commended, H. Beldon. *Chickens*.—First, S. Smith. Second, H. Beldon.

HAMBURG OR CHITTREPRATT (Silver-pencilled).—First, H. Pickles, jun. Second, H. Beldon. *Chickens*.—First, H. Beldon. Second, W. Bakstow, Fearn Cliffe, Bingley. Commended, H. Pickles, jun.

HAMBURG (Golden-spangled).—First, W. Throp, Silsden. Second, J. W. Cannan, Bradford. Commended, H. Pickles, jun. *Chickens*.—First, J. W. Cannan. Second, W. Throp.

HAMBURG (Silver-spangled).—First, H. Pickles, jun. Second, H. Beldon. *Chickens*.—First, H. Beldon. Second, J. Preston, Allerton, Bradford. Commended, H. Pickles, jun.

HAMBURG (Black).—First, H. Beldon. Second, C. Sidgwick. *Chickens*.—First and Second, C. Sidgwick. Commended, H. Beldon.

POLAND.—First and Second, H. Beldon. *Chickens*.—First, H. Beldon. Second, P. Unsworth, Lowton, near Golborne, Lancashire.

GAME BANTAM.—First and Second, J. W. Cannan. *Chickens*.—First, J. D. Newsome. Second, J. W. Cannan.

BANTAM (Any colour).—First, E. Hutton, Pudsey. Second, J. W. Cannan. *Chickens*.—First, H. Beldon. Second, E. Hutton.

ANY OTHER VARIETY.—First, H. Beldon. Second, W. Onshaw, Skipton.

ton. *Chickens*.—First, E. Leech, Rochdale. Second, J. Hargreaves, Skipton.
GESE (White).—First, B. Baxter, Etalack Hall. Second, P. Rhodes, Bingley. Commended, J. Tattersall, Embay.
GESE (Grey Toulouse).—First, W. E. Musson. Second, B. Baxter. Commended, E. Leech.
DUCKS (Aylesbury).—First and Second, E. Leech.
DUCKS (Rouen).—First, H. Beldon. Second, E. Leech.
DUCKS (Any other variety).—First, E. Hutton. Second, J. Hargreaves.
TURKEYS.—First, E. Leech. Second, P. Rhodes. Commended, J. B. Beckwith, Winterburn Wood.

PIGEONS.

CARRIER.—Cock.—First and Second, E. Horner, Harewood, Leeds. Commended, C. Cole, Bowling. Hen.—First, H. Smith, Skipton. Second, E. Horner.
POWER.—Cock.—First, J. Thompson, Bingley. Second, C. Cole. Hen.—First, E. Horner. Second, J. Thompson. Commended, C. Cole; H. Beldon.
TUMBLERS (Almond).—First, J. Fielding, jun., Rochdale. Second, J. Thompson.
OWLS.—First and Second, J. Fielding, jun.
BARBS.—First, J. Fielding, jun. Second, J. Thompson.
JACOBS.—First, J. Hawley, Bingley. Second, E. Horner. Commended, J. Thompson.
TUMBLERS (Mottled).—First and Second, E. Horner.
BALD PATES.—First, J. Fielding, jun. Second, A. & C. Smith, Silsden.
FANTAILS.—First, E. Horner. Second, F. Horner, jun.
DRAGONS.—First and Second, J. Parker.
ANTWERPS.—First, E. Hutton. Second, H. Fishwick, Gargrave. Commended, J. Whittam, Carlton.
ANY OTHER VARIETY.—First, J. Thompson (Nuns). Second, J. Fielding, jun. Third, E. Horner. Commended, H. Beldon.
 JUDGES.—Mr. James Heywood, Bow Lee, Middleton, Manchester; and Mr. R. Teebay, Fullwood, Preston.

ALLERTON POULTRY SHOW.

The second annual Show of the Allerton (near Bradford) Agricultural Society took place on the 14th inst. The weather was exceedingly favourable, and the Show was well attended.

In poultry there were about 160 pens, and some of them were very good. Through an oversight on the part of exhibitors generally, the class in which the best prizes were offered—viz., Single Game Cocks, was overlooked, and there were but sufficient entries to carry off the prizes. Some very good *Spaniards* were shown, and one of the best Buff *Cochin* cocks that has been seen during the present season. *Hamburghs* were very shabby in moult, but *Game* were shown in much better feather and condition. Black, with the exception of the first-prize pen, consisting of handsome birds, were not good. In chickens there were some excellent *Hamburghs*. *Game* chickens were good in quality, but wanting in feather.

Of *Ducks*, there were some very large well-matched pens of Rouen, and very diminutive Brown Call and Black East Indians divided the honours in the "other variety" class.

The cup for the best pen was awarded to an excellent pen of Golden *Polands*.

The *Pigeons* were good throughout, especially the *Powders*, *Owls*, and *Dragons*.

SINGLE GAME COCK.—First, J. Settle, Manningham. Second, L. Robertshaw, Allerton. Third, R. Bottomley, Shelf.

SPANISH (Black).—First and Second, H. Beldon, Gofstock, Bingley. Commended, J. Thrash, Bradford. *Chickens*.—First, J. Thrash. Second, H. Beldon.

COCHIN-CHINA.—First, H. Beldon. Second, W. Bentley, Green Side, Allerton. Commended, H. Beldon. *Chickens*.—First, C. Sidgwick. Second, H. Beldon. Commended, H. W. Illingworth, Idle.

HAMBURGH (Silver-pencilled).—First, H. Beldon. Second, J. Preston, Allerton. *Chickens*.—First, H. Beldon. Second, R. Longbottom, Bingley.

HAMBURGH (Golden-pheasant).—First, H. Beldon. Second, J. Preston. *Chickens*.—First, H. Carter, Holmfirth. Second, J. Preston.

HAMBURGH (Golden-pencilled).—First, H. Beldon. Second, J. Preston. *Chickens*.—First, F. Hollings, Horton. Second, H. Beldon.

HAMBURGH (Silver-pheasant).—First and Second, H. Beldon. *Chickens*.—First, H. Beldon. Second, J. Preston. Commended, J. Preston.

GAME (Black Pheasant).—First, H. Beldon. Second, C. Sidgwick, Keighley. *Chickens*.—First, C. Sidgwick. Second, J. Preston.

POLAND (Any variety).—First, H. Beldon. Second, H. Carter, Upper Thong, Holmfirth. Commended, H. Beldon. *Chickens*.—First, H. Beldon. Second, H. Bowker, Keighley.

DORKING.—First, H. Beldon. Second, B. Wilkinson, Bradford. *Chickens*.—First, H. Beldon. Second, C. Sidgwick.

GAME (Red).—First, J. Spencer, Queensbury. Second, H. Beldon. *Chickens*.—First, W. Bentley, Allerton. Second, G. Hargreaves, Shipley.

GAME (Any variety).—First, H. Snowden, Horton. Second, H. Beldon. *Chickens*.—First, W. Spence, Haworth. Second, W. Bentley.

BANTAMS (Any variety).—First, E. Hutton, Pudsey, near Leeds. Second, J. Leach, Allerton. Commended, J. Blamires, Horton. *Chickens*.—First, J. Blamires. Second, J. Preston.

ANY VARIETY NOT PREVIOUSLY MENTIONED.—First, H. Beldon. Second, W. Spence.

DUCKS (Rouen).—First, W. Bentley. Second, H. Beldon. Commended, T. Shackleton, Bradford; E. Leech, Rochdale; W. Bentley.

DUCKS (Aylesbury).—First, E. Leech. Second, J. Preston.

DUCKS (Any variety).—First, E. Hutton. Second, H. Beldon. Commended, W. Greatham, Allerton; W. Bentley.

GESE (Any variety).—First, E. Leech. Second, A. Booth, Allerton.

PIGEONS.—*Croppers*.—First, H. Beldon. Second, H. Snowden. *Tumblers* (Short-necked).—First, H. Beldon. Second, J. Thompson, Bingley. *Owls*.—First, S. & J. Wade, Ovenden. Second, J. Thompson. *Turkeys*.—First,

S. & H. Wade. Second, H. Mitchell, Denholme. Commended, J. Booth, Fantails. First and Second, R. Dodge, Sheffield. Commended, S. Bottomley, Allerton. *Barbs*.—First, A. Vitr, Gillingham. Second, J. Thompson. *Dragons*.—First, J. Parker. Second, J. Thompson. Commended, H. Beldon. *Carriers*.—First, R. Dodge. Second, H. Stanhope, Ecclehill. *Any Variety*.—First, R. Dodge. Second, H. Beldon.

RABBITS (Common).—First, J. Moor. Second, W. A. Booth.

JUDGES.—Mr. R. Teebay, Fullwood, Preston.

IDLE POULTRY SHOW.

THIS took place on Saturday the 11th inst., and the weather being fine there was a large attendance of visitors. The entries for poultry were not very numerous, but some good specimens were sent by Messrs. Jowett and Illingworth, who were the principal exhibitors. The former gentleman won the extra prize, a silver medal, for the best pen in the field.

There were also some good *Pigeons* shown.

The following are the awards:—

GAME.—First, Second, Third, and Medal. — Jowett. *Chickens*.—First and Second. — Jowett. Third. — Illingworth.

SPANISH.—Prize. — Jowett. *Chickens*.—First and Third. — Johnson. Second. — Scott.

DORKINGS.—Prize, W. Westwood. *Chickens*.—Prize, W. Westwood.

COCHINS.—First. — Wilson. Second. — Halliday. Third. J. Ward.

Chickens.—First. — Illingworth. Second. — Hetherington. Third. — Halliday.

HAMBURGH (Silver-spangled).—*Chickens*.—First and Second. — Wright. Third. — Jowett.

HAMBURGH (Golden-spangled).—*Chickens*.—First, Second, and Third. — Illingworth.

HAMBURGH (Silver-pencilled).—First, H. Pickles. Second, W. Sugden. *Chickens*.—First. — Garnet. Second, W. Sugden. Third. — Scott.

HAMBURGH (Golden-pencilled).—First. — Westwood. Second. — Jowett. *Chickens*.—Prize. — Johnson.

BANTAMS (Any variety).—First and Second. — Jowett. *Chickens*.—First. — Baxter. Second. — Watkinson. Third. — Woodhead.

ANY OTHER VARIETY.—First, J. Cordingley. Second. — Watkinson.

DUCKS.—First and Second. — Jowett. *Ducklings*.—First and Second. — Jowett.

The Judges who officiated were, Mr. Thos. Dodd, Wakefield, and Mr. R. Tate, Leeds.

RAILWAY CHARGES.

It is impossible to give, as I promised, the statement of expenses incurred in this matter for a few weeks. I am sorry, however, to be obliged to add, that so far our efforts have been perfectly fruitless, railway directors considering that the matter does not need alteration. I do not say that this is altogether final, as I trust we may yet do something. Meanwhile, it seems absolutely necessary that exhibitions themselves should individually bring the subject before the directors, and that they should lessen the weight as much as possible by making the pens complete with a single hen instead of two.—Y. B. A. Z.

INCUBATORS.

As the inventor and introducer of an incubator, I should like to make a few remarks in reply to "A SPANISH BREEDER" in last week's Journal, as to the success of incubators and the management of the chicks when out of the shell. That a good incubator is of very great value to a poultry-breeder none will dispute; but it is a source of great annoyance if at the end of the three weeks he cannot bring any chicks out of the shell. That artificial incubation is a real success there is no doubt; but it is a question whether with us in England it has ever been a source of much profit in a commercial point of view. An incubator never was, and I question much whether one ever can be, made that will answer as well as the natural mode of hatching. The time at which the value of a good incubator shows itself is when eggs cannot be hatched by the natural means. Incubators are invaluable when, poultry being required for exhibition, it is important that the eggs should be hatched as early in the year as possible; and perhaps no breeder would at such a time mind sacrificing 40 or 50 per cent. of the eggs if he could hatch and bring up the remainder.

I am quite willing to work my incubator against any introduced, and shall have no objection to sending "A SPANISH BREEDER" one for trial and report of success in your Journal. Incubators require very nice attention, and to be successful with them the eggs must be kept at a heat of 105° (range 98° to 106°); if lower than 98°, development is not going on; if higher than 106°, there is danger of the chicks being killed. I have not been able to determine what low temperature will perish

eggs whilst hatching; but I have found that from 110° to 112° for a short time will kill at least 75 per cent. of them.

With regard to the keeping up of the proper temperature, I may say there is little difficulty in this. I recommend gas to be used where it can be had, as a small flame the size of an ordinary candle is sufficient to keep my incubator at work, and if the flame be kept clear of the bottom of the boiler, there is no dirt attending its use. I have used gas for the last few months, and with the burner I employ have not found it necessary to touch the tap of the gas during the whole time, and my result has been most satisfactory. Oil is more trouble and expense; but if the right temperature is maintained the result is of course the same.

With regard to the strength of the chickens hatched and reared artificially, I can assure "A SPANISH BREEDER" they are equally strong and healthy as those hatched and reared naturally, and there is no reason why they should not be so; indeed, I find they thrive better and grow faster without a mother if they are looked after, well fed, and kept warm. The reason of this is obvious; they have not to wander about with the old hen, but being confined to a small space can go about and rest at will, and on wet and the colder days can be kept in the artificial mother. There is no difficulty in bringing up chickens without a hen, as some people suppose. I find it a good plan to hatch some Ducks, to come out at the same time as the chicks, and these teach them to peck, and in a week they are able to take care of and cater for themselves.—JOHN BRINDLEY.

PRICE OF LIGURIAN BEES.

I OBSERVE that some correspondents complain that the price of these bees is high, not taking into consideration the cost of importing them from either Italy or Switzerland. I imported four hives; two only survived the journey, and the whole cost of carriage consequently fell on these hives. Some queens which I obtained from Mr. Hermann cost me nearly 40s. each. As many of these bees, however, are sold along with their hives, the price is not so much higher than that of the common black bees. In this county (Durham), they ask from 35s. to 40s. for a common skep hive of black bees, and from 25s. to 30s. for a swarm.

I am glad to find that "A DEVONSHIRE BEE-KEEPER" has the Egyptian bees, and hope he will be successful with them.—J. H. A.

THE EGYPTIAN BEE.—PART IV.

HOW I OBTAINED AND INTRODUCED IT INTO MY APIARY.

(Continued from page 115.)

AS SOON as I had ascertained the fact that the Egyptian bee had actually reached Germany, I lost no time in putting myself in communication with Herr Vogel, to whom the Berlin Acclimatisation Society had deputed the task of multiplying and disseminating these interesting strangers, and in due course received the following two letters from him, the first being dated the 2nd July, 1885:—

"MR. WOODBURY,—I am very much honoured by the charge given me of sending you a fertile aegyptian queen bee.

"It may be permitted to me to inform you previously that I will despatch a very fine queen bee with its necessary companions on the 15th of July.

"The transport will be the happiest if the queen bee has only few companions. Therefore, having received this letter, I propose to you depriving a few populous bee-hive of its mother bee, and destroying after nine days all mother-cells. This bee-hive resting, deprived of its mother bee, you may make use of it to strengthen the new comers.

"You wish being informed if the aegyptian bee (*Apis fasciata*) coupled itself with the northern and Italian! *Apis fasciata* is a constant stereotype variety of *Apis mellifica*. Its temper is very lively, and its voice higher than that of *Apis mellifica*. Therefore the virgin queen bees of the aegyptian race flying out choose regularly aegyptian males. It will be also easier to keep this race genuine than the Italian bee (*Apis ligustica*).—Your affectionate, addicted bee-friend—F. W. VOGEL."

The second letter was dated the 15th July, but did not reach me until the 28th, and an examination of the Prussian post-mark showed that it was not posted in Germany until the 25th. It heralded the approach of an Egyptian queen in the following terms:—

"MR. WOODBURY!—You receive adjoined a fertile aegyptian

mother bee. The aegyptian are covered with fair hair, and have a yellowish shield on the breast-plate.

"Is winter coming on, I advise to put the aegyptian bee-hive into a quite dark room where they cannot freeze to death; in such room the bee-races winter generally the best.

"If the queen bee arrives dead, against all my expectations, it may be permitted to me to send you another which is not to be paid.—Your affectionate, devoted bee-friend—F. W. VOGEL."

The result of this correspondence was, that on the 30th of July I received a somewhat weighty deal box, 12 inches long by 9½ wide, and 8½ inches deep, which, in addition to my address, was ornamented with sundry printed labels, one of which declared it to be "aus Zechin," and another "par Ostende." There was also in one corner a rough pen-and-ink sketch of a drinking-glass, meant, I suppose, to convey the intimation to railway porters and all whom it might concern, that the contents of the box were of a like brittle character, and under this cartoon, for the edification of German as well as of English readers, appeared in three lines, thus—

"MIT SORGFALT!

"MIT CARES!

"ÆGYPTIAN BEE!"

The two first lines being likewise repeated on the three remaining sides of the rather large label which concealed fully two-thirds of the box cover.

On applying my ear to the wire cloth which covered an aperture for ventilation, I was somewhat concerned at finding all within as still as death, nor could I by tapping the sides of the box elicit the slightest response from the little prisoners, whose answering hum is usually so prompt and ready under such circumstances. It was therefore with no little trepidation and misgiving that I sought for tools and set to work to prise off the well-secured cover, which, like the box itself, was made of wood nearly an inch in thickness, the latter being dovetailed together, and of such strength as might well have fitted it for the conveyance of bullion from the Antipodes, instead of merely the safe custody of a few hundred bees. On raising the lid a small cluster adhered to it, having apparently removed themselves as far as possible from a large square piece of dark-coloured honeycomb, out of all proportion to their wants, a portion of the contents of which having escaped had so clogged and soiled the unfortunate little prisoners, that few indeed were able to use their wings. On separating and carefully examining this cluster, I found it to consist of worker bees so similar to Ligurians that I could not at that time detect the slightest difference, two or three small but very handsome drones, the whole being in a sad plight, and what seemed to me to be a diminutive Ligurian queen in nearly as bad a case as the rest. This certainly appeared extremely small change for my outlay, and it was with no very pleasant feelings or agreeable anticipations that I proceeded to make the necessary attempt at placing my forlorn Semiramis at the head of a small lot of Italians, which having themselves failed in the attempt to raise a queen, appeared more likely than any others to tender their allegiance to an alien monarch. I, of course, took the precaution of presenting to them this aspirant to the vacant throne in a queen-cage; through the bars of which her future subjects were at liberty to make her acquaintance, and well was it that I did so, for dire was the onslaught made upon her bedraggled attendants which I added to the Ligurians at the same time. "Italian Unity!" or whatever may be its apian equivalent, was at once vociferously buzzed forth, and perseveringly and relentlessly reiterated, as one by one the unhappy Egyptians were dragged out, until their expulsion was at last as absolutely complete as that of their fellow-Africans, the Moors, from Spain by the warlike Ferdinand and Isabella of Castile.

This was in truth an unpromising commencement, but I could do nothing to calm the strife which continued nearly until the sun went down, and it was with gloomy forebodings that I witnessed the massacre—contest it could not be called—and beheld the ground in front of the hive strewn with dead and dying bees. Still I hoped that the animosity of the vindictive Italians might be satiated with the slaughter of her worker attendants, and that they might yet tender their allegiance to the captive Semiramis, whose dynasty might by their means be perpetuated in Great Britain: nor were my favourable anticipations entirely vain. On examining the interior of the hive the next morning, I found the hostile demonstrations of the fiery Italians so far moderated and subdued as to induce

me to set the imprisoned monarch at liberty. Remaining unmolested, and being followed only by admiring and caressing antennae in this her first royal progress in her new domain, I was encouraged to hope for the best, and successive examinations during the same and following days proving to my satisfaction that she indeed reigned in the affections of her alien though adopted children, I set myself by the careful selection and gradual addition of ripe brood-combs, so to increase the population of the hive as to admit of the propagation of *Apis fasciata* before the season, already so far advanced as to make success improbable, should be so far passed away as to render it entirely hopeless.—A DEVONSHIRE BEE-KEEPER.

(To be continued.)

TAKING HONEY FROM SIDE BOXES AND SUPERS.

On the 11th of this month it appeared to me that the bees in a Nutt's hive were abstracting the honey out of a side box, which never had been quite filled, though the comb was quite finished. I took it, and found no honey in it; none has been taken from it this year. The stock has thrown out one if not two swarms (possibly even three), in spite of all precautions. How am I to know when to take the side boxes in future? When should I have taken this? I have two or three stocks in straw hives which must be taken. They are reasonably heavy, but the bees are still busy bringing in pollen. Of what is this a proof? Ought I to leave the stock as long as the bees seem to work, or, honey being my object, ought I to take them at once?—HAMPSHIRE RECTOR.

[It is very probable that the bees commenced breaking in upon the contents of the side box when the first swarm issued, and that they have been diminishing ever since. We can, however, lay down no positive rule as to the proper time for taking either side boxes or supers. Of course, when once completely filled they are best removed as soon as possible; but you must endeavour to form your own opinion as to the time at which the weight of a partially-filled box reaches its probable maximum, when it should at once be appropriated. Bees bringing in pollen freely is a sign of prosperity and of the existence of brood, but it does not show that the store of honey is increasing. Weigh your stocks towards autumn, and take them when they reach the culminating point. We find that the honey harvest is over in our locality whenever the fine weather breaks up in July.]

B. & W.'s APIARY IN 1886.

In a communication to "our Journal" in January last I mentioned that I had received in the autumn a young Italian queen from my friend Mr. Woodbury, who had suspicions, as well as myself, that I had hitherto been unfortunate in possessing only a hybrid queen of that race. With much care, but little difficulty, after uniting the populations of two stocks and destroying their queens, the young stranger was successfully introduced to the united bees, and located in my bee-house in place of A. By careful feeding this united stock survived the winter in good health; but the queen not breeding till late in the spring, the population, which had been large, became so reduced in number that I despaired, even so late as April, of its recovery. However, the queen proved to be all I could desire, and not only filled the box (one of the largest in my apiary), which was only one-third full of comb when the queen was put into it in autumn, but the bees also worked in a super, giving me about 6 lbs. of pure honeycomb.

Being absent from home during July, and this stock (A), being too backward to operate upon before, it was left to its own devices till the 3rd of August, when the queen and entire population were driven and shifted into D's box, whose queen and population had been previously driven into an empty hive.

A's box was subsequently given to the bees of D after the destruction of their queen, the bees of both hives remaining in their former places, but having exchanged hives. I have some doubts, however, whether the bees in D will manage to rear a queen, as there was no brood apparently in the hive, except such as was quite recently hatched. I shall be quite content if I can rear one queen to head this stock this autumn. Mr. Woodbury will be glad to learn that the bees are beautifully marked, and the queen a first-rate breeder. Another

year, if all is well, I shall hope to multiply my Italian stock from her brood more largely.

It is time I should give some account of this year's proceedings in my apiary, so I will make a beginning by stating how many stocks survived the winter. This will be seen by the following schedule of stock hives, corrected from page 81 in your former volume. It represents the condition of my apiary in April last:—

BEE-HOUSE.		
A. Pure Italian queen. Born 1886. Weak.	B. Defunct.	C. Italian queen. Born 1886. Strong.
D. Degenerate queen. Born 1886. Strong.	E. Italian queen. Bred out of C in 1884. Strong.	F. Italian queen. Bred out of C in 1886. Strong.
UNDER COVER.		
G. Defunct.		
GARDEN.		
H. Defunct.	I. Hybrid Italian. Strong.	L. Strong.
M. Italian queen. Bred out of C in 1884. Very strong. Tasmanian hive.	Q. Degenerate queen. Born 1886. Strong.	I. Italian queen. Bred out of C in 1884. Very strong. Tasmanian hive.
FOWL-HOUSE.		
P. Degenerate queen. Bred out of C in 1886. Strong.	O. English queen. Born 1886. Strong.	N. Defunct.
K. Degenerate queen. Born 1886. Very strong.		

It will thus be seen that I began the year with twelve stocks. I have to add that I discovered I was in error in stating that the queen of F had become degenerate. Most of the bees have been fairly-marked Italians. I am still puzzled to account for the bees in P in the fowl-house, having degenerated, as I remarked at page 80, last volume. No doubt, however, the queen must have died in the course of the summer. I am the more inclined to believe this, as the actual queen of that stock has not proved a good breeder this year, as her predecessor had shown herself to be last year.—B. & W.

(To be continued.)

HOG CHOLERA—COAL FOR CURE.

A WESTERN farmer is convinced that bituminous coal is a preventive of hog cholera. He has four hogs that will average 800 lbs. live weight each, and now about seven months old; some three months since he began to feed them daily with coal, and, to determine the amount consumed, weighed it. For the first twenty days they consumed 1½ lb. each; during the past month he has resumed weighing again, and finds that they eat 2 lbs. each. He thinks this daily feeding keeps them in a more healthy condition. They have no desire to root like other hogs, as this coal supplies what they would get from the soil. He also contends that the cutting of the snouts to prevent rooting is barbarous—positive destruction of the health of the porker. The hog does not root simply for the fun of it, but to supply a want, and as coal answers the purpose, he ceases to root, and lies down in lazy quiet. When the coal has been omitted for two or three weeks the propensity to root returns.—(Boston Cultivator.)

OUR LETTER BOX.

COST OF REARING DUCKS AND CHICKENS FOR TABLE (T. H. F.).—At what age do you consider your Ducks and chickens fit for table? In the London markets some are sold very young. They generally realise the best prices because they are earliest in the season. We must also ask at what time of year you want them reared? It is worth twice as much to rear in the winter as the spring. In the summer you should give 6d. per month per head, and you must contribute part of the food. We are assuming that the fowls are reared by cottagers, where, being no farm-yard, there is no run or scratch where food may be found. Geese are easily reared where there is a common, and cost little more than chickens. Turkeys are troublesome, and you would have to pay 1s. per month. The feathers will almost pay for plucking. Ordinary prices are 1d. per head for fowls and Ducks, 4d. for Geese and Turkeys without feathers. These are for practised hands.

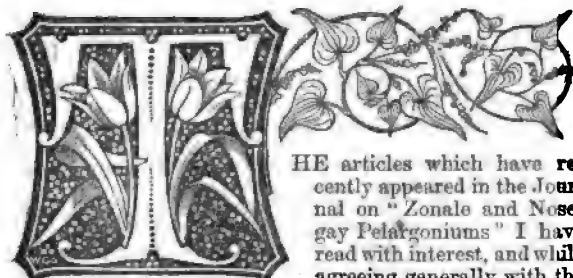
UNITING SWARMS (C. L.).—We should prefer driving the bees in the first place into an empty hive, and uniting them afterwards in the manner recommended in page 86 of the fifth edition of "Bee-keeping for the Many." The use of a little smoke, and sprinkling both swarms of bees with peppermint-scented syrup at the time of uniting them, may also be advisable.

WEEKLY CALENDAR.

Day of Month.	Day of Week.	AUG. 26—SEPT. 3, 1886.	Average Temperature near London.			Rain in last 30 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.								
26	Tu	<i>Bilardiera nuttallii</i> .	78.1	49.5	61.8	17	7 a 5	55 a 6	56 a 7	49 a 7	18	1 5	240
27	W	<i>Borbonia cordata</i> .	71.7	47.8	59.7	14	9 5	58 6	56 8	4 9	19	0 48	241
28	Th	<i>Abelia triflora</i> .	73.2	48.5	60.8	19	11 5	51 6	59 8	30 10	20	0 30	242
29	F	<i>Adesmia viscosa</i> .	71.1	47.1	59.1	17	12 5	48 6	55 9	24 11	21	0 11	243
30	S	<i>Angelophora cordifolia</i> .	70.5	47.5	59.0	23	13 5	46 6	18 10	45 0	22	0 7	244
1	SUN	14 SUNDAY AFTER TRINITY.	70.7	47.6	59.1	17	15 5	44 6	9 11	53 1	(	after	245
2	M	<i>Anisomeles furcata</i> .	70.4	47.3	59.0	17	17 5	42 6	morn.	53 2	24	0 45	246

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 71.4°; and its night temperature 47.9°. The greatest heat was 85°, on the 1st, 1843; and the lowest cold 33°, on the 29th, 1860. The greatest fall of rain was 1.50 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

ZONALE AND NOSEGAY PELARGONIUMS.



THE articles which have recently appeared in the Journal on "Zonale and Nosegay Pelargoniums" I have read with interest, and while agreeing generally with the

views of the respective writers, it has struck me that there is yet a great deal left unsaid which might be said of these beautiful plants.

With regard to the Pelargonium, I confess myself a disciple of the late Mr. Beaton: the mere florist's view would never have made me a cultivator; it is as a decorative plant that I look at and value it. I would as soon buy a horse from the shape of its head alone as a Pelargonium from the shape of its flower: as the one might have a head of perfect shape, and be a thorough "screw," so the other might have a most symmetrical flower, and be utterly worthless for decorative purposes.

The seedling Nosegay and Zonale Pelargoniums of the last three years have been so numerous and so varied that we now look in vain for any plant that even rivals them for decorative purposes, either in or out of doors. With all deference I submit that the old and familiar term "Scarlet Geranium" should now be dropped; for, however much we may love things and names that are old and familiar, it would be rather "Irish" to speak of a "white scarlet," a "pink scarlet," or a "purple scarlet" Geranium. Well, thanks to the industry, perseverance, and skill of the late Mr. Beaton and other cultivators, we have not only these colours but numerous intermediate shades—bicolors, tricolors, &c., and promises of even greater variations in the future. The aspect of the numerous recent seedlings is indeed so diverse that a new arrangement must be made at no distant date to enable those who have to deal with them to understand each other. In the matter of leaves, there are the plain-leaved, the zone-leaved, the variegated-leaved, with their numerous shades and combinations of silver, gold, black, and crimson; as to the truss, there are the true zonale and the nosegay; and as to the habit, there are the ordinary, the dwarf, and the giant.

Leaving this aspect of the question thus briefly dwelt on, because it appears to me that the time for a satisfactory generalisation has hardly yet arrived—assuming that we had better delay this work till the new paths recently opened are pushed a little further into the unknown beyond—I shall confine myself in the present paper to two broad and distinct lines of thought—1, Nosegay and Hybrid Nosegay Pelargoniums; 2, Zonale Pelargoniums.

1, The "Nosegay" and "Hybrid Nosegay" Pelargoniums are in my view pre-eminent for bedding purposes and for general out-of-door decoration, because they flower

so continuously and for such a lengthened period. I have one truss of Sir J. Paxton, bright orange, now before me 15 inches in circumference, and another of St. George, chestnut, shaded with black, with 120 flowers on it! While Verbenas and Calceolarias are beautiful now and then, these Pelargoniums are always in condition. Perhaps it required a wet and windy August, such as we have just experienced, to demonstrate this. There are here nearly three hundred varieties of Zonale and other Pelargoniums gathered from all parts of England and abroad, and planted out side by side in order to test their powers of battling with sun, wind, and rain, and never was the pre-eminence of the "Nosegays" for out-of-door work more clearly established. Even the seedlings, of which there are several thousands, "Zonales," "Hybrid Nosegays," and "Nosegays," the latter furnish fresh evidence in favour of that conclusion. Your Dr. Lindleys, Beauté de Surmesnes, Floras, Madame Barrés, and others, beautiful as they are viewed from the point of form and under glass, will not stand comparison out of doors with the Amy Hogg, the Salmon, Peach, and Orange Nosegays, the St. Georges, and Stellas. Fine drawing-room and conservatory gentlemen are the former, but hardly suited for the rough-and-ready work of out-of-door life: hence when I see the florist judging a Pelargonium, whose chief value is for decorative purposes out of doors, by a truss or a single flower, and condemning it *in toto* because the flower does not realise his idea of form, I set him down as a man of "one idea," and wish I could induce him to look without prejudice on the glorious masses of Nosegays and Hybrid Nosegays of all hues on which I am now looking, and which gladden me while I write. It does not, in my judgment, require much foresight to predict that these Pelargoniums have a glorious career before them. Fashion, which has been against them, is fast coming round, and this once established, "interests" and "prejudice" must change or stand aside.

Of the Nosegay and Hybrid Nosegay Pelargoniums which I have seen, I believe the following to be the best:—*Alexandra*.—Bluish purple; large flower; dwarf and compact; free-flowering; leaves slightly zonate. Distinct, and very beautiful.

Amy Hogg.—Purplish rose; trusses large and abundant, standing well above the foliage; leaves slightly zonate.

Archbishop.—Rich scarlet crimson; large compact truss; petals large and broad; leaves zonate, of a beautiful pale green. Habit good.

Banneret.—Crimson scarlet and purple; beautifully shaded; trusses abundant; leaves plain.

Bicolor.—Bluish rose, orange blotch in upper petals, quite new in colours; leaves plain.

Crimson Queen.—Intense crimson, the darkest of Nosegays; trusses abundant; leaves zonate.

Cybian.—Very bright orange scarlet; trusses large and plentiful; leaves zonate.

Duchess of Sutherland.—Cerulean scarlet; trusses very large and numerous; leaves slightly zonate.

Dr. Hogg.—Deep rosy pink, much darker in colour and broader in the petal than Amy Hogg; truss fair size and abundant, very bright and beautiful; leaves zonate.

Enchantress.—Purple and crimson shaded, scarlet blotch on upper petals, very smooth and glowing; trusses plentiful, and thrown well above the foliage; habit fine; leaves plain.

Fairy Queen.—Rosy red; trusses fair size, and abundant; flowers large and smooth; leaves slightly zonate.

Glory of Waltham.—Intense scarlet, trusses large and compact, resting immediately on the top of the foliage; leaves plain, pale green. The finest of Nosegay Pelargoniums.

Indian Yellow.—Orange scarlet, with a strong glow of yellow; trusses of fair size, and very abundant; leaves darkly zonate.

Le Grand.—Crimson scarlet, shaded with purple; of large size and great substance.

Lilacium.—Lilac; trusses large and compact, and rising well above the foliage; leaves plain; habit dwarf and close.

Madame Barré.—Bright rosy pink, white eye; leaves plain.

Naiad.—Purple, crimson blotch; leaves plain. Very distinct and beautiful.

Orange Nosegay.—Bright orange; trusses fair size, and very abundant; leaves plain. Very effective.

Purple Queen.—Reddish purple; trusses very abundant; leaves slightly zonate; habit very dwarf. Suited for edgings.

Saint George.—Chestnut, shaded with blackish scarlet; trusses very large and compact; flower-stalks stiff, and rising nicely above the foliage; leaves plain. One of the best.

Salmon Nosegay.—Salmon; trusses and flowers large, smooth, and abundant; leaves plain. One of the best and most effective.

Stella.—Bright crimson; trusses large and abundant; leaves zonate.

Sir Joseph Paxton.—Bright orange; trusses large and abundant; leaves zonate. Very effective.

Village Maid.—Bright deep pink, with a large white blotch on upper petals, the colours clearly defined, not running into each other; habit dwarf and compact; leaves darkly zonate. Very beautiful.

Waltham Nosegay.—Carmine and scarlet shaded; trusses and flowers large, smooth, and compact, rising well above the foliage; leaves plain; habit first-rate. One of the most effective.

Waltham Seedling.—Dark crimson; trusses large and abundant; leaves zonate. Very effective.

Wood Nymph.—Pale reddish pink; leaves pale green, slightly zonate. Distinct and pleasing.

2. I now come to speak of the "Zonales," which are generally best under glass; and although the Nosegays are alike beautiful, and sometimes more beautiful under glass, we cannot say that the Zonales as a rule are equally beautiful in the open ground. These Zonales, like the Nosegays and their allies, possess one great advantage over the fancy, French, and other Pelargoniums, which it will be well to bear in mind—namely, that they may be had in bloom at any season, or, indeed, all the year round, if kept under glass; whereas the others are only a month, or at most six weeks, in condition. And here I am glad to find that I am in unison with the "one-idea" men. I acknowledge form as one important and desirable quality, and only object to it when it is used to ignore other qualities equally, and for special purposes more, important than itself.

Of varieties best suited for decoration under glass, the following are the best according to my judgment:—

Beauté de Suresne.—Deep rosy pink, white eye; trusses large; form fine; leaves zonate.

Blue Bell.—Very soft, bluish lilac; colour new, and lovely; truss large; form fine; leaves zonate.

Bride.—White, with large crimson eye; of fine shape, and great substance; leaves zonate. One of the best of the light-coloured varieties for out of doors.

Cardinal.—Full scarlet; truss large; form fine; leaves plain.

Charles Rouillard.—White, shaded with salmon; flowers good shape; truss compact; leaves darkly zonate. Good out of doors.

Clipper.—Scarlet; flowers very large; form fine; habit good; leaves zonate. One of the best.

Dame Blanche.—White, slightly tinged with pink; leaves darkly zonate. Very pretty and distinct.

Dr. Lindley.—Scarlet; truss and form fine; habit good. One of the best for in-doors, forming a beautiful round-headed standard.

Duchess.—Reddish cerise; truss very large and fine; habit close and compact; leaves slightly zonate. One of the best.

Firefly.—Scarlet, shaded with blackish crimson; trusses fair

size, and abundant; habit good; leaves zonate. Good also out of doors.

Governor.—Scarlet; flowers large; good shape and truss; leaves plain.

Lord Chancellor.—Reddish salmon; trusses good size, very abundant; leaves darkly zonate, contrasting well with the flowers. Quite first-rate, both in and out of doors.

Lucius.—Yellowish orange; flowers large, splendid truss; leaves zonate. One of the best.

Ma Gloire.—White, centre red; leaves darkly zonate.

Madame Werle.—Flowers white, centre red, colours clearly defined; flowers large; good shape; leaves zonate.

Madeline.—Salmon red; flowers large; leaves darkly zonate.

Merrimac.—Rosy salmon; leaves zonate. Good either in or out of doors.

Model.—Deep orange scarlet; perfect shape; trusses fair size; leaves plain. The finest of all orange scarlets.

Mr. G. Natchet.—Light scarlet; leaves darkly zonate. One of the best.

Mrs. Wm. Paul.—Soft rosy peach; flowers very large; form fine; habit dwarf and compact; leaves slightly zonate. One of the best.

Nimrod.—Orange; fine form; truss large and fine; leaves zonate. One of the best for either in or out of doors.

Nora.—Salmon rose; flowers large; good shape; leaves zonate.

Princess Lichtenstein.—Salmon pink; perfect shape; good both in and out of doors; leaves darkly zonate.

Rebecca.—Cherry colour; fine form and habit; blooms abundantly. One of the best for either in or out of doors.

Striking.—Salmon shaded with orange; flowers large and of good form; leaves darkly zonate.

Virgo Marie.—Pure white; flowers good shape, the best of the whites; leaves zonate.

Of the double-flowering kinds, I have found *Ranunculiflora plenissima* and *Gloire de Nancy* the best, but cannot recommend either for out of doors.

I have purposely avoided entering on the cultivation of this plant, as it is so simple and so generally understood, that I feared trespassing needlessly on your valuable space. I may just remark, however, that a light soil, not too rich, appears to me the most suitable, and when grown in pots the plants should have plenty of pot room.—WILLIAM PAUL, *Paul's Nursery, Waltham Cross, N.*

COCOA-NUT FIBRE REFUSE.

Our late lamented friend Mr. Beaton, when he brought the various uses to which the cocoa-nut fibre refuse could be successfully applied into public notice, conferred a great boon on the lovers of floriculture and horticulture, and no doubt at the same time was the means of placing a good round sum to the credit of the Patent Cocoa-nut Fibre Company; for that which was fast becoming a nuisance to them was made a fruitful source of income by his so strongly recommending its application for the various purposes of plant and fruit-growing. Many readers of the Journal can remember with gratitude the good effects it brought about in connection with plant-growing. Now that we have lost him, it is pleasant sometimes to refer back through the long files of Journals that have since been published. Those who had the pleasure of knowing him personally can almost fancy he is present with them whilst they are perusing his practical articles, which are written so clearly that those who run may read; and amongst the numerous suggestions conceived by his fertile brain even the most learned of the present day may find assistance, which will help to unravel many a knotty subject, and relieve and help them out of many difficulties which may beset them.

It will be remembered that Mr. Beaton strongly recommended the use of the cocoa-nut refuse for plunging plants in. I have used it with great success for Pine-growing this season. It is much superior to spent bark for plunging Pines in, for the following reasons:—

1st. It does not breed any fungus.

2nd. Where there are sufficient pipes for bottom heat it will always retain a regular and uniform temperature about the roots of the plants. This is a most important point. One of the greatest evils the Pine-grower has to contend with in using tan for his plunging material is the sudden check to which the plants are subjected when the beds are renewed. The roots have perhaps for some time been growing in a tem-

perature of 80°; when the bed is renewed the temperature will be perhaps as low as 65° for a week or ten days, then all at once there is a rapid rise, and it frequently happens that the roots are subjected to a scorching temperature of 95° or more. These sudden changes must be very injurious to the growth of the plant, and are often the cause of its fruiting prematurely.

Another valuable property which the cocoa-nut refuse possesses is its durability. Plants may be potted into their fruiting pots, and there will be no necessity for removing them again till after the fruit has been cut. This saves the leaves from being broken, and preserves the plant from many dangers to which it is often subjected by removal, especially where proper care is not taken in performing the operation. My Pine-pits were prepared as follows: After the hot-water pipes were fixed some clay was put in layers 6 inches thick, each layer being carefully rammed down. The whole of the space below the pipes was filled up in this way; then 1 foot of broken bricks, stones, &c., was put in around and above the pipes. In putting in this brick rubbish care was taken to place it so that the heat from the pipes might be regularly distributed over the bottom of the bed. The refuse was then sifted, and the fibre was placed over the drainage to prevent the finer refuse from trickling through; 2½ feet of the refuse was put in, and the plants nicely plunged. They are now full of health and beauty, and have the appearance of enjoying themselves to the fullest extent.

As the refuse will last several years, it will in the end be found cheaper than tan, even to those who like myself had to send to London for it, for there is in the first instance a great saving of labour, and it often happens that the spent bark has to be brought from a long distance, in which case the cartage amounts to a considerable item. Then, again, the plants look so neat and comfortable, and there is not that rough unsightly appearance which is produced by the tan.

The following quantities of piping should be placed in the bottom of the pits for bottom heat, as no heat is generated by the refuse itself. For a pit 5 feet wide, two four-inch pipes, and for a pit 10 or 12 feet wide four pipes should be used. These should be placed at equal distances over the bottom. If the pit is 12 feet wide let the pipes be put 3 feet apart, and instead of having two flows and two returns, let there be only one flow and one return, this will cause the heat to be more evenly distributed.

The prices of the cocoa-nut refuse delivered at any of the railway stations or booking-offices in London, bags included, are as follows:—Ten bags for 14s.; twenty for 27s.; thirty for 40s.; forty for 50s.; fifty for 60s.; sixty for 70s., and so on. The larger the quantity taken, the lower the price in proportion. I received sixty bags, the railway charge was about £3 10s., so that I obtained for about £6 10s. nearly three tons of the refuse, enough to fill three large pits, several frames, and for plunging plants in, besides a reserve for mixing with soil for plant-growing, &c. I have been particular in naming quantities, price, &c., so that any one wishing to try it for the purpose of Pine-growing, may know the quantity to apply for.—J. WILLS.

THE ROSES OF 1866.

As a natural sequence to my notes on the Roses of 1865 I wish to say a few words on those of the present year, but before doing so must allude to a "mull" made in my former paper. The description of Dr. Andry should have followed immediately on that of Duc de Wellington, and then the paper would have read correctly. As it is, there is a discrepancy between the statement in a former paragraph, that I considered Dr. Andry a first-class Rose, and this arrangement, which makes it a second-class one. With regard to the Roses of the present season, I do not think that one is as yet capable of speaking very decidedly on them all. Some have unmistakably held good their claim on the attention and kind offices of all rosarians; others have as unmistakably proved their worthlessness, and of these few only would I speak in very decided terms. I had the opportunity last season of seeing some of them abroad, and gave my judgment then—a judgment which I am glad to say has been confirmed by Rose-growers at home and abroad. Others I spoke well of on the strength of the raiser's character; but here I have been disappointed, so that there is no infallible rule.

For these reasons it will be obvious that I cannot give so complete a résumé as of those of 1865, and must claim for

myself the privilege of altering my opinion when the blooming season next year shall have given me a greater opportunity of seeing them.

Alba Mutabilis (Eugène Verdier).—A very pleasing tender tint of rose, changing to a deeper colour when expanded. I am inclined to think this will be a useful Rose.

Alfred Colomb (Lacharme).—A magnificent high-coloured flower, very full and well formed, certainly A1.

Exposition de Brie (Granger).—I have seen this very fine, and it is likely to be among the first, or, if not, at the top of the second class.

Mademoiselle Marguerite Dombrain (Eugène Verdier).—Another first-class Rose, large, globular, lively colour, and distinct. How Mr. Heale could have said it was too like *La Reine* I know not. In colour it is intermediate between it and *Comte de Nanteuil*.

Prince de Porcia (Eugène Verdier).—A very beautiful flower. I saw it at Mr. Fraser's, and it was certainly very fine.

Frédéric Biborel (Damaizin).—I have only seen this once, but it was then very beautiful and well shaped.

Hippolyte Flandrin (Damaizin).—A beautiful flower, exquisite in shape, and lively in colour. I think this will be a first-class Rose if its constitution is good.

Jean Cherpin (Liabaud).—I have seen this in one or two places, and in very beautiful condition; the colour very brilliant, and the flowers large, but not coarse.

Joséphine de Beauharnais (Guillot fils).—Unquestionably a good Rose. I should say decidedly A1, were I quite sure that it is sufficiently distinct from its parent *Louise Peyronny*. I think it is, but wait for further acquaintance with it.

Madame Fillion (Gonod).—I saw this at Lyons very pretty, but have not to the best of my recollection seen it here.

Gloire de Ducher (Ducher).—Not a flower that will be a favourite one here; its colour is against it.

Pline (Guillot fils).—A coarse flower, rough in outline, and not distinct in colour. Will be discarded.

Prudence Besson (Lacharme).—A huge flaunting flower, far more like a *Pæony* than a *Rose*, with immense petals of a bright rosy pink colour, but so few in number that the flower is worthless.

Souvenir de Dr. Jamain (Lacharme).—This has the very opposite fault to the preceding one—it is too small. The colour is admirable, but it will never make a show Rose.

President Mas (Guillot fils).—A coarse flower, and somewhat dingy in colour, not unlike *Boula de Nanteuil*, but not so good.

In addition to these I have heard *Fisher Holmes* and *Jean Lambert* highly spoken of; but at present my judgment goes thus far—*Alfred Colomb*, *Marguerite Dombrain*, and *Hippolyte Flandrin* are first-class Roses; *Alba Mutabilis*, *Exposition de Brie*, *Prince de Porcia*, *Frédéric Biborel*, *Joséphine de Beauharnais*, and *Jean Cherpin* come next, and some of them have a good chance of getting promotion; while there are some others whose fate, as far as my opinion goes, is as yet undecided.—D., Deal.

AMONG THE SCOTTISH BRAES, LOCHS, AND MOUNTAINS.—No 3.

DUNOON CASTLE crowns the summit of a grass-clad conical hill, still justifying its Gaelic designation, compounded of *Dun*, an eminence, and *aine*, green. Small are the fragments of the castle now remaining, and as I rested upon them the thought recurred which had often arisen before when visiting similar ruins of similar residences of the olden times—how effectually they forbade a dependence upon vegetables for sustenance. At first, this may seem a trivial reflection—but if the reflection be pursued it explains and illustrates some of the manners of the feudal ages. The animal diet—the flesh and fish constituting the prominent dishes of every meal—were forced upon the residents of such fortified dwellings. They dared not depend upon provisions to be grown without the walls, and to have included a sufficient space within the walls would have rendered these far too extended for defence by the lord's ordinary retainers—and to increase the garrison would be to increase the difficulty of provisioning it. Corn and preserved meats sufficient for many months could be stored in a castle's vaults, hence those foods of necessity were adopted as the prevailing diet. It would have been inconvenient and risking additional privation to foster a taste for food so liable

to be cut off as that produced by a garden, and hence gardening was among the neglected arts of the feudal ages—the ages of perpetually recurring wars—not merely the wars of nation against nation, but of baron against baron. Dunoon had its full share of these internecine broils. In 1383 John Baliol drove from it its rightful lords—the Lamonts; and his garrison, in its turn, was soon massacred by the aid of Colin Campbell, of Lochawe, founder of the Argyll family, but this stronghold was not restored to the Lamonts. In due course, the Earl of Argyll, two centuries later, was expelled from it by the Earl of Lennox. However, it was restored to the Argylls, and their atrocious hatred of the Lamonts culminated in 1646. They waged a war of extermination against the Lamonts, and nearly two hundred of them, their followers, and their children, are known to have been massacred. The Lamonts who held the strongholds of Toward and Escoc, near Dunoon, were captured and brought hither, and thirty-six gentlemen of the clan were hung upon one tree. The Marquis of Argyll was indicted for the crime, and there is scarcely ground for doubting that he was cognizant of the intended slaughter. Some of the concluding sentences of this head of the indictment are as follows:—

“The Lord from Heaven did declare his wrath against the same by striking the tree whereon the said Lamonts were hanged in the month of June; it being a level fresh-growing Ash-tree at the kirk-yard of Dunoon, among many other free-growing trees with leaves. The Lord struck the tree immediately thereafter, so the whole leaves fell from it, and the tree withered.”

It is recorded that the Argylls never afterwards inhabited the castle, and it gradually was deserted and allowed to become a ruin.*

I could linger over other passages in this castle's history, and could detail some of the doings of Mary Queen of Scots when, in 1563, visiting here her sister, Lady Jane Stewart; but I pass on, cross the mountain at the back of Bullwood—rich in bog plants, follow the mountain stream, the banks of which are clothed with many Ferns, ramble on to Sandbank, where, for a time, Sir William Hooker resided while Professor at Glasgow University, and, homing by the shore of the East Bay, will now jot down a few notes about the plants found in this vicinity.

The neighbouring sea and the comparatively small elevation of the mountains here banish from them the rarer alpine plants which are found within a few miles on the more inland and loftier mountains, yet there are some plants of not common occurrence. The Bitter Cress (*Cardamine impatiens*), is found in the neighbouring glens; Scurvy Grass (*Cochlearia officinalis*), on the beach; that gem of native plants, the Sundew (*Drosera anglica*), in the bogs of the mountains; the Horned Poppy (*Glaucium luteum*), on the higher portion of the beach between the West Bay and Toward Point; and in the same locality grows the Oyster Plant (*Mertensia maritima*), deriving its popular name from the flavour of its leaves when eaten whilst fresh.

In the boggy localities is also found the Sweet Gale or Bog Myrtle (*Myrica gale*), distinguishable even by the non-botanical by the spicy fragrance of its leaves when bruised. This and the elasticity of its spray cause it to be selected for many a highland bed. It abounds in districts once exclusively peopled by the Campbells, and hence it was adopted as the badge of their clan.

On the drier soils, resting on the rock, are several of the Orchidaceæ—the Early Purple (*Orchis mascula*), the Spotted (*Orchis maculata*), the Butterfly (*Habenaria bifolia*); and in the boggy places may be detected the Marsh Orchis (*Malaxis paludosa*).

In the boggy localities, also, is found the Portuguese Butterwort (*Pinguicula lusitanica*), so called because first discovered in Portugal, but since found native in places on our western coasts, though not, I believe, either on our eastern coasts or inland.

The Yellow Mountain Saxifrage (*Saxifraga aizoides*), is found here; and the Great Bilberry (*Vaccinium uliginosum*), the large fruit of which is eatable, and its leaves mingled with the Alpine Club Moss are used for dyeing woollens yellow by the Icelanders. Lastly, I may mention that ally of the Grasses the

Sea Wrack (*Zostera marina*), used for stuffing the skins of birds in the Hebrides and Orkneys. It is not uncommon near the shore here.—G.

THE CONIFERS AT WOODLANDS, REDHILL, SURREY.

THREE are two chief points in connection with the Coniferous tribe that are obviously distinct, but not necessarily antagonistic. These are, utility in an economic sense, as the various appliances of their timber, fruit, secretions, and, in a horticultural sense, their ornamental qualities and effective appearance in the landscape, whether singly or in groups. Of the first it is not my object to take especial cognizance further than to remark, that excepting in the case of a few well-known kinds, a correct appreciation of the real value of the timber furnished by many of them is as yet confined to comparatively few, and that many years must elapse before the valuable timber of some of the Conifers, now rarely planted for any other purpose than for improving the appearance of parks and kept grounds, or, as we should say, for specimens, will be brought into more general use.

This is at present naturally the case. Commercially speaking, it would not answer to send for timber many thousands of miles away, where labour is also scarce, even if it were known to be superior, when a substitute could be obtained at a comparatively trifling cost although inferior in quality. There are two well-known instances of this, the Douglas Fir (*Abies Douglasii*), and the Himalayan Cedar (*Cedrus deodara*). The durability of the latter under certain circumstances is shown by unimpeachable testimony, and important applications of the latter have been the subject of frequent remark, and it is not many years since some interesting and conclusive experiments by Mr. Wilson Saunders, showed the comparative strength of these and other woods to surpass those hitherto in general use. Both species have been in England several years; they are found to adapt themselves to the climate and soil perfectly; and both have begun to produce seed annually, but whether of sufficient maturity to produce seedling plants has not yet come to my knowledge. Evidence on this point would be useful. In the case of the Douglas Fir it is certainly much to be hoped that the seed may germinate, as the enormous distance and the situation of its native home (North California, British Columbia, and the north-west of North America generally, now in the course of being colonised), must offer almost insurmountable obstacles to its importation in quantity. There is no reason, then, why the Douglas Fir and Deodar should not be extensively planted in this country, and good service is being rendered by several of our most eminent nurserymen in raising large quantities of both from imported seed.

In their relation to horticulture, the selection and planting of Conifers for ornamental purposes is one of the most important considerations in laying out new grounds and the improvement of others. The diversity of form, foliage, habit, and adaptability to situation is so extensive that no garden of any pretension can be without some kinds, and even in the smallest, if we do not find some specimens of compact or fastigate growth we feel that there is something wanted to render it complete, however well it may be managed in other respects. Like other subjects, the planting and selection of Conifers is often carried to an injudicious extent, either from deficiency of knowledge of their habits and requirements or from the pardonable desire to possess specimens. Thus we occasionally find them too much crowded, a vigorous and large-growing tree put where a smaller or more compact kind would be suitable, or the contrast of foliage not sufficiently studied to produce striking or pleasing effect, but something indescribably jarring to our sense of the beautiful which we should wish to see altered. Notwithstanding that much has already been written about Conifers, practical suggestions for planting and arranging specimens might form the subject of more than one useful and interesting article.

At Woodlands all the requisite conditions for securing good specimens combined with good effect have on the whole been satisfactorily complied with. The soil is light, with a large proportion of sand. The situation is favourable, and partially sheltered by high deciduous trees, which materially assist in breaking the force of high winds. The specimens from their size would at first sight appear a little too close together, but they are sufficiently far apart to admit a free circulation of air—an indispensable requisite to secure good and healthy plants.

* I am indebted for this extract to a local guide about to be published by Mr. John Colegate, Bookseller, Dunoon, of some of the proofs of which he allowed me to have the perusal. Mr. Colegate is also agent for the letting of lodgings—that is, he is what is termed north of the Tweed a “House Factor;” and I advise his aid to be obtained by those about to visit Dunoon.

Contact will always produce some deformity, or render the part that suffers it more or less unsightly. The specimens named beneath may be ranked among the best, certainly in the county of Surrey, as regards their thriving and beautiful appearance, and inferior to few that have ever come under my notice. By the kindness of Mr. Singleton, the gardener, I am enabled to give the dimensions of the plants from actual measurement.

Wellingtonia gigantea.—Height, 18 feet. Spread of branches, 45 feet in circumference. Trunk at base, 5 feet; at 4 feet from the ground, 8½ feet. Age, about 12 years. A perfect specimen, symmetrical and compact.

Picea (Abies) pinsapo.—Height, 21½ feet. Spread of branches, 60 feet in circumference. Trunk at base, 2½ feet; at 4 feet from the ground, 2 feet 2 inches.

Thuja aurea.—Height, 4 feet 9 inches. Circumference, 16½ feet.

Cupressus torulosa.—Height, 22½ feet. Spread of branches, 27 feet in circumference. Trunk at base, 3 feet 9 inches; at 4 feet from the ground, 2 feet 3 inches.

Thujopsis borealis.—Height, 8½ feet. Spread of branches, 16½ feet in circumference.

Picea (Abies) cephalonica.—Height, 23½ feet. Spread of branches, 40 feet in circumference. Trunk at base, 2½ feet; at 4 feet from the ground, 1 foot 9 inches.

Cupressus macrocarpa.—Height, 35 feet. Spread of branches, 64 feet in circumference. Trunk at base, 4½ feet.

Cedrus deodara.—Height, 28 feet. Spread of branches, 60 feet in circumference. Trunk at base, 4½ feet; at 4 feet from the ground, 2 feet 9 inches.

Thuja gigantea.—Height, 17 feet. Spread of branches, 18 feet in circumference. Trunk at base, 2 feet.

Abies Douglasii.—Height, 35 feet. Spread of branches, 60 to 64 feet in circumference. Trunk at base, 2 feet 9 inches; at 4 feet from the ground, 2½ feet. This tree has produced abundance of cones.

Picea (Abies) Nordmanniana.—Height, 10½ feet. Spread of branches, 22 feet in circumference. Trunk at base, 1 foot; at 4 feet from the ground, 9 inches.

Picea (Abies) nobilis.—Height, 9 feet. Spread of branches, 18 feet in circumference. Trunk at base, 1 foot.

Pinus excelsa.—Height, 28 feet. Spread of branches, 38 feet in circumference. Trunk at base, 3 feet; at 4 feet from the ground, 2 feet.

Pinus insignis.—Height, 30 feet. Spread of branches, 66 feet in circumference. Trunk at base, 3 feet; at 4 feet from the ground, 2 feet 2 inches.

Cupressus Udeana.—Height, 24 feet. Spread of branches, 37 feet in circumference.

Cryptomeria japonica.—Height, 24 feet. Spread of branches, 54 feet in circumference. Trunk at base, 3 feet; at 4 feet from the ground, 2 feet 2 inches. A truly magnificent specimen of this noble tree.

Abies morinda.—Height, 32 feet. Spread of branches, 36 feet in circumference. Trunk at base, 1½ feet; at 4 feet from the ground, 1½ feet.

The above details of these fine Conifers will give a much more correct idea of what they really are than any particular description of each, which would exhaust my vocabulary of euphonious adjectives. They were planted by the late W. Headland, Esq., whose taste for Conifers and Roses was well known in the horticultural world. They are now the property of F. W. Costar, Esq. Occasional notice of some of them has been made in these pages and elsewhere by anonymous correspondents in a very indistinct manner, and without reference to Mr. Singleton, the gardener, under whose care they have been for many years, and of whom it is not too much to say that he is one of those earnest, intelligent, hard-working gardeners whom we are always glad to meet. The grounds at Woodlands are fully in keeping with the beautiful trees that adorn them. The rosery, flower garden, and the various houses, all bear testimony to the excellent management under which they are placed.

While writing of Conifers, I have to record a remarkable sport which has occurred in the nursery of Mr. Cattell, at Westerham, whose general stock of these plants is scarcely surpassed anywhere. It is from a plant of the diminutive *Abies Clanbrasiliana*, whose leader has grown with a vigour quite contrary to the habit of it, and which proves to be the common Spruce (*Abies excelsa*), thus showing that *A. excelsa* and *A. Clanbrasiliana* are not separate species, but simply varieties of the same.—ADOLPHUS H. KENT.

NOTTINGHAM FLORAL FÊTE.

CONTEMPORANEOUSLY with the meeting of the British Association for the Advancement of Science, a floral fete was held on Thursday last, at Nottingham, and continued open till Saturday night. The spot chosen for the Exhibition was a field in the Park Valley, about six acres in extent, along the sides of which numerous tents, some of them of very considerable dimensions, were erected, whilst the central area was left open to the promenaders and the military bands. Of these there were several in attendance, including that of the Grenadier Guards from London. In a horticultural point of view the gathering was most successful, for not only were the subjects exhibited extremely numerous, but they were also very creditable to the growers; the attendance of visitors was also very large, amounting on the first day, we believe, to about 5000, and the weather having been fine throughout, there seems to be no reason to doubt that the results of the Fête in a pecuniary point of view will be most gratifying to the promoters.

Stove and greenhouse plants constituted a leading feature, though it is rather late in the season to see flowering specimens of these in the same perfection as we are accustomed to meet with them at the metropolitan summer shows; but fine-foliaged plants were both numerous and in excellent condition. In a collection of sixteen, from Mr. B. S. Williams, of Holloway, to whom was awarded a first prize in its class, were very good specimens of *Allamanda Schottii*, *Bougainvillea glabra*, *Statice Holfordii*, *Dipladenia splendens*, and *Vallota purpurea*, together with variegated *Yuccas*, *Croton angustifolium*, *Alcornoque macrocarpa*, variegated, variegated New Zealand Flax, and *Gymnostachyum Verschaffeltii*. A similar award was made to Lord Middleton for a like collection, containing among other plants a very good *Anthurium magnificum* and *Alcornoque zebrina*, *Caladium aryrates*, *Cissus discolor*, and *Cyperus alternifolius* variegatus. Capt. Farmer had *Achimenes*, *Lantanas*, flowering *Begonias*, *Fuchsias*, *Lilium lancifolium*, a good specimen of the variegated *Cobaea scandens*, which is not so much grown as it deserves to be, being very useful as a conservatory climber, and as a pyramidally-trained variegated pot plant; and W. C. Boden, Esq., Ruddington Hall, had *Lantanas*, the pale blue *Plumbago capensis*, good *Achimenes*, *Vinca rosea*, *Stephanotis floribunda*, *Asclepias curassavica* and *Allamanda Schottii*. Of this last there was a single specimen with magnificent blooms, from Mr. Williams, of Holloway, who also had a first prize for *Erica Maroccaniana* in fine bloom.

Of plants shown exclusively for their foliage many fine collections were exhibited, those from Mr. Williams, Lord Middleton, Lord Belper, E. J. Lowe, Esq., J. W. Taylor, Esq., Stoke Newington, and Mr. Bullen, gardener to A. Turner, Esq., Leicester, being especially worthy of note. Among such plants were several fine specimens of *Cycasophyllum magnificum*, variegated *Crotons*, *Pandanus utilis* and *javanicus* variegatus, *Caladiums*, *Anthurium magnificum*, *Alcornoque metallica*, *Lowii*, and *zebrina*, one or two handsome plants of *Spherozyne latifolia*; also, *Cissus discolor*, variegated *Ananassa sativa*, *Colerus Verschaffeltii* and *nigricans*, *Cordyline indivisa*, *Dracenas*, *Marantas*, *Rhopala*, *Theophrasta imperialis*, *Cycas revoluta*, *Pothos argyrea*; *Livistonia Jenkinsii*, *Lantana borbonica*, and other *Palms*, together with several fine specimens of tree Ferns. Good collections of smaller plants came from Messrs. Small, of Ilkeston, and Messrs. Wood & Ingram, of Huntingdon. Among single specimens we remarked a noble plant of *Livistonia Jenkinsii*, from Mr. Williams, a fine example of *Cissus discolor* from the same, *Caladium Chantini* from Lord Middleton, and *Alcornoque metallica* from Mr. Bullen. Of *Caladiums*, Messrs. Cooling, of Mile Ash Nurseries, Derby, Messrs. Small & Son, and Lord Middleton exhibited well-grown plants of *Wightii*, *Chantini*, *pedicel*, *bicolor splendens*, and *mirabile*.

The central group in the large tent, in which the flowering and fine-foliaged plants were chiefly shown, comprised a fine specimen of *Dicksonia antarctica* from Mr. Williams, a large *Caladium esculentum* from Lord Belper, Kingston Hall, and other tall plants with ornamental foliage, and was surrounded with well-grown fine-leaved *Begonias* shown by Capt. Smith, Lord Middleton, Mr. Boden, Mr. Wildman, and Capt. Mandell; there were also some very good exotic Ferns from the first-named, and Mr. Boden, including excellent examples of *Adiantum cuneatum* and *formosum*, *Blechnum corcovadense*, and *occidentale*, &c.

Orchids were poorly represented as regards numbers. Mr. Williams, Holloway, and Mr. Bullen, gardener to A. Turner, Esq., of Bow Bridge, Leicester, were the principal exhibitors, and their names are sufficient guarantee that the specimens shown were of no mean excellence. Mr. Williams, who was first for twelve, had *Miltonia spectabilis* with fourteen fine blooms, *Odontoglossum grande* with about a dozen large flowers, *Saccolabium Blumei* majus with a fine spike, *Aërides suavisimum*, *Vanda suavis*, a very good *Phalenopsis rosea*, *Cattleya crispata*, and *Laelia elegans* in very good bloom. *Calanthe maculosa*, *Dendrobium formosum*, and the showy *Epidendrum vitellinum*. Mr. Bullen had the next best collection, the star of which was a magnificent *Cattleya crispata* literally a mass of bloom, Rolleston's variety of the same, *C. Acklandiae*, *Dendrobium aliforme* with several of its pendulous greenish yellow racemes; *Miltonia Regnelli*, *Saccolabium Blumei* majus, and *Aërides suavisimum* in good bloom, and *Epidendrum coelestem* majus, the last, however, not a very effective plant in a collection owing to the dusky colour of its blooms. Mr. Williams took the first prize for a specimen Orchid with *Saccolabium Blumei* majus having a beautiful spike of bloom nearly 2 feet in length, Mr.

Bullen being second with *Cattleya crispa superba*, and in all the other classes Mr. Williams was the only exhibitor, showing, besides plants already mentioned, good examples of *Vanda tricolor*, *Aërides nobile*, *Saccolabium Dayii*, *Lycaste Skinneri*, and *Cattleya Harrisoniae*.

Ferns, both British and Exotic, have rarely, if ever, been brought together in such numbers. The main body of them was placed in two tents extending altogether nearly 800 feet in length, and however fine they were, we cannot but think they would have excited much greater interest had they been broken up by masses of other plants; as it was, the eye became weary of them, and that this was the effect on most of the visitors, the fact that the Fern-tent was less crowded than the other parts of the Exhibition may be taken as a proof. In addition to the long tent, there was another of good size wholly filled with a most extensive and remarkably fine collection contributed by the Rev. C. Padley, of Beaconfield, Plymouth. This excited much interest, and, apart from its merit as a collection, the way in which it was arranged and labelled was worthy of all commendation, for not only could every plant be seen with ease, but each was distinctly named. For this purpose cards specially printed in gold and colours were employed; and the stages of the tent, it may be added, were covered with crimson cloth. Messrs. Edwards & Son, of the Moss Spring Nursery, Nuthall, Mr. Cooling, Messrs. Small, and E. J. Lowe, Esq., had also excellent collections of British Ferns, comprising numerous varieties. Messrs. Edwards took a first prize for their collection.

Among Exotic Ferns Mr. Williams, of Holloway, had several fine examples of *Marattia elegans*, *Thamnopteris australasica*, *Cyathea medullaris*, *Todea africana*, *Nothochlena sinuata* with fronds 2 feet in length, *Platynerium grande*, and *Cibotium*. Lord Belper had, besides a large plant of *Gymnogramma ochracea* and *Nephrolepis exaltata* and *davallioides*, a remarkably fine specimen of *Adiantum tenerum*, and Mr. Lowe a beautiful example of *Adiantum cuneatum* about 4 feet across; *A. formosum*, *Lygodium scandens*, and some others were also very good. J. W. Taylor, Esq., of Stoke Newington, also exhibited fine examples of exotic species, of which we remarked *Alsophila Cooperi*, *Gleichenia dicarpa* and *speluncæ*; *Cibotium princeps*, *Cyathea*, and other tree Ferns. From the same gentleman came also several very fine pans of *Lycopods*.

Small collections of medicinal and economic plants came from Mr. Williams and Lord Middleton, and comprised the plants affording Cotton, Indian-rubber, Ginger, Teas, Loquat, Cinnamon, Camphor, the Date Palm, the Croton Oil plant, Sago Palm, *Marsilea macropus*, &c. Mr. Barron, of the Elvaston Nurseries, near Derby, filled a circular tent 66 feet in diameter with a fine collection of evergreens, conspicuous among which were *Picea Nordmanniana* showing the silvery character of its foliage, handsome specimens of *Cupressus nutkalensis*, *Torreya nucifera*, *Abies Alcockiana*, *Euryas*, *Enonymus*, *Eleagnus*, Holly-leaved *Osmanthus*, and various other Japanese plants. Mr. Barron also exhibited *Retinosporas* and other Conifers in great numbers, and a remarkably fine Golden Holly, and a large *Picea pinsapo*, in two of his transplanting machines, showing the mode in which plants are slung in these and transported in safety and good condition to a distance. Mr. Frettingham, Stapleford Nursery, exhibited a similar collection, in which were several remarkably fine variegated Hollies; *Cryptomeria japonica*, *Thuja aurea*, and various other Conifers in fine condition. These plants filled a tent adjoining that occupied by Mr. Barron, and their ensemble from the number of the variegated Hollies was much more lively than that usually presented by collections of shrubs.

Fuchsias were in considerable force, and were generally in good bloom, though, as a rule, those grown in the pyramidal form were too tall as compared to their breadth at base, and were not so well furnished as those seen at the London shows. Mr. R. J. Beard was first for eight; Mr. H. Farmer for four; Capt. Mundell, Messrs. Wood and Ingram, Capt. Smith, and others also exhibited plants in good bloom. Among the best were *Rose of Castile*, *Little Bo-peep*, *Conspicua*, *Sensation*, *Schiller*, *Excellent*, *British Sailor*, and *Guiding Star*.

Of *Pelargoniums*, the Duke of Newcastle, Clumber, exhibited large plants in iron vases of *Stella*, *Cybister*, and *Minimum Nosegay*, in fine bloom; and of Mrs. Pollock, Cloth of Gold, Bijou, and Flower of the Day among variegated kinds. From Messrs. Small, Ilkeston, who had a first prize, we noticed good plants of *Amelina Griseau*, *Clipper*, and *Eleanor*. Messrs. Wood & Ingram, Messrs. Smith of Dulwich, and Mr. Jabez Chater, Gonville Nurseries, Cambridge, exhibited interesting collections of tricolor and variegated kinds.

Among other flowering plants were *Verbenas*, *Petunias*, and *Balsams* in good bloom, the last shown by Lord Middleton, *Lilium lancifolium* from Mr. Williams and Messrs. Small, and some other subjects.

Cut flowers comprised stands of beautiful cut Roses from the Rev. S. Reynolds Hole, and the Rev. Mr. Pochin. Messrs. Paul & Son, of Cheshunt, also exhibited a numerous collection, besides taking first prizes for twenty-four and twelve blooms. A number of good bouquets were also shown. Hollyhocks from Mr. W. Chater, of Saffron Walden, and Mr. Jabez Chater, of Cambridge, comprised many fine spikes as well as blooms; among which were examples of Rev. J. Dix, Rev. E. Hawke, Mrs. B. Cochrane, Annie Chater, Attraction, and several seedlings. Dahlias were also well represented in stands from Mr. Draycott, Messrs. Wood & Ingram, Rev. H. Pochin, and Mr. T. Paget, and included fine blooms of *Charlotte Dorking*, *Charles Turner*, *Bob Ridley*, *Lord Derby*, *Lord Palmerston*, *George Wheeler*, *Volunteer*,

Lilac Queen, *Leah*, &c. Several fine stands of *Gladioli* were exhibited by Messrs. Paul & Son and Mr. Johnson; and there were numerous exhibitions of German Asters, and some good *Zinnias* from Mr. Chater, of Cambridge.

A pretty floral monogram by P. Jeffcock, Esq., attracted much attention; and the first prize for dinner-table decorations was awarded to Capt. Farmer for a looking-glass set round with Scarlet *Geraniums* and Ferns, on which was set a silver ewer and Grapes and Vine leaves at the base, and Ferns, Orchids, and *Liliums* in the top dish. The second prize went to Capt. Smith for a tasteful arrangement in one of March's stands.

Fruit was not nearly so well represented in quantity as could have been anticipated, but some of it was above the average in point of quality. The first-prize collection came from Mr. Westland, Lord Belper's gardener, and comprised several kinds of Grapes, *Pine* Melons, Peaches, Nectarines, Apricots, Figs, Cherries, Apples, Pears, Gooseberries, Currants, and Alpine Strawberries. Mr. Dixon, who took the second prize, had fine bunches of Black Prince and Trentham Black Grapes, very good Chasselas Musqué, Brown Sugarloaf and Ripley Queen Pines, two Melons, Peaches, Apricots, Cherries, Gooseberries, Mulberries, and Pears. A collection from the Duke of Newcastle's garden was third. Grapes comprised very good well-ripened bunches of Black Hamburg from Lord Belper, Messrs. Dixon, Gregory, and Paget, those from the first-named being by far the finest. Mr. Paget had Muscat of Alexandria very good, the Duke of Newcastle White Frontignan; Mr. Newton, Royal Muscadine; and among other kinds we noticed good bunches of Red and White Frontignan, Trebbiano, and Muscat Hamburg. Several good Pines, consisting of Provençes, Queens, Cayenne, and Envoies, were shown; some fine Peaches and Nectarines came from Mr. Tillery, Welbeck; and there were also good dishes of Apples, Plums, Currants, and other fruits. There were, besides, some very fine fruiting orchard-house trees; but so crowded was the tent in which these and the rest of the fruit were, that after sundry ineffectual efforts, the attempt to get near them had to be given up.

There was also a small show of vegetables, of which the Potatoes were particularly good; the other articles were of fair quality.

The span-roofed glass house in which the Orchids were exhibited was erected by Mr. Messenger, of Loughborough, and was efficiently ventilated by a contrivance opening the whole of the upright sashes upwards and outwards. He also exhibited a ground vine, and his tubular boilers and valves. From Messrs. Barr & Sugden, came a number of elegant Fern-cases, drawing-room plant-stands, flower-vases, &c.; and Messrs. Edwards had some very good samples of similar articles.

ROYAL HORTICULTURAL SOCIETY.

AUGUST 21ST.

FLORAL COMMITTEE.—Mr. A. Bartleman exhibited a seedling *Nosegay Pelargonium*, with large, bright pink trusses; a very promising flower, but being a yearling plant no award could be made. Mr. Thos. Cripps, Tunbridge Wells, brought several very interesting plants. Among them were seven varieties of seedling *Clematis*, hybrids from *C. lanuginosa*, which have the great recommendation of continuing some weeks in flower. These seedlings were very beautiful. Two of them received first-class certificates—viz., *Lady Caroline Nevill*, a delicate lavender with dark stripe; and *tunbridgenis*, reddish purple, with a blue stripe in the centre of each petal. The other flowers were very good, and will find a place in every collection. First-class certificates were also awarded to Mr. Cripps for *Forsythia viridissima* variegata, *Pteris serrulata polydactyla*, a very distinct form; and a second-class certificate for *Hydrangea japonica elegantissima* variegata, with golden variegation. Among other plants were *Euonymus japonicus latifolius*, *Aucuba japonica maculata femina*, and *Griselinia macrophylla* from New Zealand. Messrs. E. G. Henderson exhibited *Verbena Blue Shade* and *King of the Scarlets*, bedding varieties—their merits must be tested when planted out; *Verbena Harlequin*; a hybrid *Fuchsia*, *Day Dream*, one of the *Globe* section, having small compact flowers; *Fuchsia Vainqueur de Puebla*, a double white free-flowering sort, but with ragged flowers; *Coleus aureus marginatus*, not sufficiently distinct; and *Petunia Joseph Haendrecht*, with variegated foliage. Mr. Wm. Paul sent a collection of variegated shrubs, many of which had been seen before, and had received awards—*Weigela rosea marginata* var., *Sedum atropurpureum*, *Ligustrum japonicum maculatum* or *ovalifolium*, *Euonymus japonicus aureo-variegatus*, *Euonymus macrophyllus*; also a nice collection of some of his best *Nosegay Pelargoniums*, among which the great favourite *Amy Hogg*, Dr. Hogg, and St. George were very much admired. A special certificate was awarded for the whole collection of plants and *Nosegay Pelargoniums*. To Mr. James Keeler, gardener to T. Todd, Esq., Dulwich, a first-class certificate was awarded for seedling *Zonale Pelargonium Sambo*, a very bright scarlet, with large and compact trusses of flowers; and Mr. Bull received a first-class certificate for *Dioscorea discolor vittata*, *Adiantum velutinum*, and *Yucca hystrix*; and a second-class certificate for *Pentstemon Scutellari*, a purplish crimson, the lower lobe of the flower marked with large, distinct, dark spots.

Messrs. Low sent plants of *Oncidium cruentum*, which it was requested should be sent again. From Mr. J. Collier, Bethnal Green,

came Zonale seedling Pelargonium Bob, a good flower, but too much like many others; and from Mr. R. Hopkins, Brentford, seedling Dahlias Lord Enfield, Ariel, and Anna. Mr. Standish's seedling Gladioli were much admired, and were very beautiful; many of them had received awards. Two seedlings were selected for first-class certificates—viz., Dr. Hogg, a splendid fiery crimson, with a purple flame, and Basil, a large well-formed white and pink striped flower, one of the finest seedlings yet raised. A special certificate was awarded for the collection. Mr. Todman sent a seedling Verbena, King of the Bedders, a dark crimson; two boxes of the cut blooms of this seedling were also sent. A second-class certificate was awarded it as a useful bedding variety. Mr. Green, gardener to W. W. Saunders, Esq., received a special certificate for a collection of Peperomias. To Mr. Anderson, gardener to T. Dawson, Esq., a special certificate was awarded for a collection of cut spikes of beautiful Orchids. Mr. Simms, gardener to E. Dance, Esq., brought a very pretty seedling Zonale Pelargonium Salmon King; being a yearling plant no award was made. Mr. George Rawlins had a very dark seedling Dahlia called John Sladden, which received a second-class certificate. From Mr. Tillery, Welbeck, came seedling Gladiolus Fanny. Messrs. Veitch sent two beautiful Orchids, to one of which, Cattleya Mangiesii, a beautiful hybrid between C. Harrisoniae and C. Mossiae, a first-class certificate was awarded. Mr. John Stevens, gardener to F. E. Williams, Esq., Solihull, sent three seedling Gladioli—Mrs. Williams, Wyley Williams, and Exhibitor; to the latter, a dark red with a white throat, a second-class certificate was awarded. Mr. Eckford, Colehill, again brought a fine collection of seedling Verbenas; two of them, Earl of Radnor, a light scarlet, pale lemon centre, and Fanny Martin, received second-class certificates. Mr. Keynes, of Salisbury, exhibited among seedling Dahlias a Fancy named Butterfly, of a dark brownish hue, which was awarded a first-class certificate; and Clara Simon, a light flower tipped with purple, which received a first-class certificate. We may expect many of the seedlings exhibited on this occasion to be sent again, for it is early to decide on the merits of seedling Dahlias; they may and will produce much better flowers than at present.

FRUIT COMMITTEE.—A special certificate was awarded to Mr. Bell, gardener to the Duke of Wellington, Strathfieldsaye, for a fruit of Charlotte Rothschild Pine Apple of peculiarly excellent flavour. Mr. Bell also exhibited Anson's Pine, a variety of inferior merit. A Ripley Queen weighing 6 lbs. 6 ozs., was likewise shown by Mr. Holliday, gardener to W. B. Walsley, Esq., The Elms, Acton; it was, however, almost destitute of a crown, a circumstance which detracted much from its appearance. Several seedling Grapes were shown by Mr. James, gardener to the Earl of Dartmouth, Patahull; one of them was the result of a cross between the Black Prince and Black Frontignan, and another between Morocco and Chasselas Musqué. The Committee, however, did not consider them worthy of an award. From Messrs. Osborn, Fulham, came fruit of Podophyllum emodi and Gaultheria shallon; and from the Rev. A. Rawson, of Bromley, the Lawton Blackberry, very juicy, but not equal in flavour to the common Blackberry.

FORTNIGHTLY MEETING.—G. F. Wilson, Esq., F.R.S., in the chair. After the election of members and the announcement of the awards, the Rev. M. J. Berkeley directed attention to a Bramble shown at the previous meeting by Mr. Bateman. This, he said, was nearly allied to the common Raspberry (*Rubus idaeus*), and evidently a form of *R. strigosus*. Other nearly related species were *R. occidentalis* and *cuneifolius*, having the under sides of their leaves white. Referring then to the Lawton Blackberry, he said the fruit was large, and held in high repute in Canada and the United States; and though to our taste its flavour is somewhat rapid, it is there, owing to the heat of the summer, very acceptable from its juiciness. He might mention, in connection with the Blackberry, that the jelly had been prescribed for gout by a physician in Northamptonshire, and it doubtless owed its efficacy to the circumstance of its containing a small quantity of citrate of potash, which is used as a remedy for that painful disorder. Mr. Rivers, it was added, had been making some experiments with the view of improving the fruit of the Blackberry, and Mr. Berkeley hoped that the produce of some of the cross-bred plants would be shown at the next meeting. *Rubus girceoidianus* raised from seeds imported from the Amoor River, and shown at a recent meeting, proved to be the *R. reflexus* of Ker, figured in the "Botanical Register" in 1820; and this fact would serve to show how cautious we ought to be in adopting trade names. Mr. Berkeley then remarked that, though not before the meeting, male catkins of *Picea pinsapo* had been produced at the Marquis of Huntly's, Orton Longville, near Peterborough. Orchids then came under review, and attention was especially directed to an unnamed *Oncidium*, of which a magnificent branch was furnished by Mr. Anderson, gardener to T. Dawson, Esq., Meadow Bank, near Glasgow, from whom there also came a portion of a spike of *Oncidium leucochilum* bearing no fewer than 242 blossoms. *Lælia Wallisii*, and the facility with which Cattleyas hybridise, were then remarked upon, as also *Adiantum velutinum*, from Mr. Bull. With regard to *Podophyllum emodi*, Mr. Berkeley expressed his surprise that the large red fruit should have proved perfectly insipid, seeing that the May Apple or Wild Lemon of the Americans (*P. peltatum*), is one of the most intensely acid fruits known. Among economic plants of interest, there was *Maranta arundinacea*, from the tubers of which the Arrow-root of commerce is obtained, but there are several other plants which

afford a starch to which that name is applied. Thus the Portland Arrow-root is obtained from our common *Arum*, which is very poisonous, but by repeated washings is rendered innocuous. It might also be mentioned that in 1828, when there was a great scarcity of food in the West of Scotland, a great number of people lived on the fecula of the roots of *Typha latifolia*. The Rice-plant, *Venus's Flytrap* (*Dionaea muscipula*), and *Apocynum androsaemifolium*, also came under notice, as well as the Dahlia Fanny Sturt, which was exhibited in three forms—viz., in its normal condition, or tipped with white; half tipped with white, and half crimson; and lastly, crimson entirely.

The Middlesbrough and the Glamorganshire Horticultural Societies were admitted into union.

WEEKLY SHOW, August 25th.—On this occasion prizes were offered for the best collection of vegetables; and Mr. Earley, gardener to F. Pryor, Esq., Digswell, and Mr. Hill, Angel Row, Highgate, were placed equal first; the former also received an extra prize for a basket of flowers, and a first-class certificate for a neatly arranged hand-bouquet. To Mrs. Hooke, Morville Lodge, Fulham, were awarded first-class certificates for three specimens of *Lilium auratum* and for six Fuchsias, also a second-class one for *Gladiolus*. Mr. Standish received an extra prize for a collection of *Gladiolus*; and a similar award was made to Mr. Bartlett, of Hammermith, for *Lilium auratum* and Asters.

ENTOMOLOGICAL SOCIETY'S MEETING.

THE August meeting of this Society was held on the 6th inst., Professor Westwood, Vice-President, being in the chair. On the motion of Mr. Pascoe, seconded by Mr. Stevens, a vote of thanks was unanimously passed to W. W. Saunders, Esq., for the kind and liberal entertainment given by him to the members of the Society at Reigate, as already recorded in our pages.

Mr. Samuel Stevens exhibited portions of two collections of insects recently sent by Mr. Edwin Reed from Bahia in Brazil, and by Mr. Gerrard from Madagascar. Amongst the former were some interesting Cicindelids and Carabids; and among the latter a new and handsome Buprestis, and several species of the very rare genus *Pogonostoma* (*Palloera*, Gory), also specimens of a new *Cetonia* from Sierra Leone.

Mr. MacLachlan exhibited a remarkable specimen of *Cabera pusaria*, a white Moth, but which had the wings entirely of a slaty colour—it had been captured by Mr. D'Orville; also an extensive series of the cases formed by the larvae of different species of Caddis Flies (*Trichoptera*), which he had received from Bavaria and the neighbourhood of Basle, one of which was remarkable for being formed of tubular vegetable stems fastened together longitudinally, the insect residing in the central tube; another was formed entirely of minute particles of sand; also specimens of the galls formed by Aphides of the genus *Eriosoma* on Elm trees, within which the Flies are developed in considerable numbers, but some of the galls were observed to be partly filled with fluid. He also noticed the capture of *Sisyra Dalii*, a very rare species of Hemerobiids, at Reigate.

Mr. Bond exhibited several rare British Moths, including *Scopula basistrigalis*, a new species recently described by Dr. Knaggs; also *Sericoris Euphorbiana* and *Catoptria microgrammana*, taken at Folkestone by Mr. Meek.

Mr. Jansen exhibited various rare Beetles collected in the New Forest by Mr. C. Turner, including *Vellerius dilatatus* found in the burrows made by the caterpillars of the Goat Moth. Professor Westwood stated that the late Professor Henslow had reared this rare *Staphylinus* from Hornets' nests, in which its larva is parasitic. He also made some remarks on the structure of the singular blind Ant Beetle from Australia, *Ectrepes formicarum*, described at the last meeting of the Society by Mr. Pascoe; and on the rearing of the new Chinese Silkworm, *Bombyx Cynthia*.

A communication was also read on the recent plague of Locusts in Algeria.

HORTICULTURE ON THE CONTINENT.

OUR neighbours are occupied with their approaching Exhibition in 1887, and the horticultural journals give us details respecting the *annexe* to the building devoted to plants and fruits. The Show will last from the 1st of April to the 31st of October. A garden of more than 50,000 square yards, in the Champ de Mars, is specially devoted to horticultural objects. There will be fourteen sections. No object exhibited can be withdrawn during the fortnight destined to its section. Expenses to be paid by exhibitors; but the railways reduce the ordinary tariff by one-half. Applications to indicate clearly the objects and their condition, also the space required, &c. In France one cannot be too minute, let it be remembered by intending exhibitors. The following is a sketch of the sections:—

First section, open 1st of April, 1867:—Camellias, Conifers, vegetables, Ericas, forced fruits, and vegetables.

Second section, open 15th of April:—*Rhododendron arbo-reum*, forced fruits, Hyacinths, and greenhouse plants.

Third section, open 1st of May:—Orchids, Azalea indica, Tulips, ornamental plants.

Fourth section, open 15th of May:—Azaleas indica and pontica, Rhododendrons, Orchids.

Fifth section, open 1st of June:—Orchids, Roses, Pelargoniums, &c.

Sixth section, open 15th of June:—Pelargoniums, Roses, Orchids, fruit in season.

Seventh section, open 1st of July:—Palms, hothouse plants, fruits.

Eighth section, open 15th of July:—Aroids, fruits.

Ninth section, open 1st of August:—Plants with coloured foliage, Gladioli, Fuchsias, fruits.

Tenth section, open 15th of August:—Plants, Ferns, and fruits.

Eleventh section, open 1st of September:—Dahlias, plants, and fruits.

Twelfth section, open 15th of September:—Dahlias, plants, and fruits.

Thirteenth section, open 1st of October:—Fruits and plants (open).

Fourteenth section, open 15th of October:—Fruit trees trained (open).

Exotic plants will be placed for the first two days of their sections in the interior of the "Crystal Palace" in the central portion. They will afterwards be replaced in the houses specially devoted to them. There will be a mixed jury, composed of twenty-four members. The prizes will be classed as first, second, third, and honourable mention. Prizes to the value of 250,000 francs (£10,000), will be given; 100 golden medals, each valued at 1000 francs (£40); 1000 silver medals; 3000 medals of bronze; 5000 "mentions honorables." This is the present intention of the Committee of Management.

An important show of Roses at Brie-Comte-Robert has been held. Roses are too well described in this Journal to be de-scribed on here; but, as one review says, *à tout seigneur tout honneur*, let us not omit to "mention honourably" the Rose raised by M. Desmazures, and called the Countess of Jaucourt, which was that most approved of at the show. It is a Rose of a full size, opening well, and of a tender *rose-carné*, and belonging to the *hybrides remontantes*, which we translate, rather unhappily, "Hybrid Perpetuals." Is not the French term far more explicit?

M. André Leroy, the well-known nurseryman at Angers, writes that he has obtained a second series of summer blooms from the *Wistaria chinensis*. "The *Wistaria*," he says, "sometimes at Angers shows a few summer blooms, but these do not form, strictly speaking, a second series. Let us treat it as a *plants remontante*, and, to obtain the desired result, we must develop those portions of the plant which give summer flowers—that is, those short spray-like shoots whose eyes, closely placed, are surrounded with leaves. Generally under those shoots which have flowered there springs a vigorous shoot, sometimes several yards in length, which only produces leaves. These useless shoots should be suppressed, unless required for training. By closely pinching in these gross shoots (would not we imagine that Peach shoots were here spoken of?) the sap will be concentrated at the base of the leaves, modifying the eyes, which generally become transformed into flowers. We thus obtain a second show of blooms during the summer months." M. Leroy always had in his gardens showy plants of the *Erythrina crista-galli*, but the severity of the winter destroyed them. The same thing occurs in the Channel Islands, except in some peculiar cases. In France, generally, this plant is cultivated in the orangeries. M. Leroy recommends, as insuring success, the planting it out in a warm and very well-drained border, and, early in November, to cut it down, and cover it over with a hand-glass well piled round with sand, the upper portion being left exposed. During the severe frosts (he is speaking of the climate of mid-France), of December, January, and February, the glass is completely covered over with stable-litter. Whenever the sun shines this is partially removed, but afterwards replaced. In March the litter is taken away, the sand alone remaining, and in April or May, when the young shoots appear, the other defences are removed. The shoots soon reach 6 feet, and in the course of five or six years each plant readily bears twenty-five or thirty shoots. 1200 to 1500 flowers may be looked for on these, lasting all July and August.

M. Rivière, head gardener of the Luxembourg at Paris, highly recommends the following simple plan of propagating the common Fig. In December some of the branches of the tree were

buried under 18 inches of earth. They remained thus till early in May, when they were dug up, and the extremities were cut into portions of 6 or 8 inches long, and were then inserted in a prepared border. These portions, placed at intervals of 10 inches, were then completely covered over by a layer of earth of about 2 inches, and slightly watered. Early in June the buds broke, and pushed so freely that in four months they were 3 feet high and well rooted. These young trees withstood any amount of drought.

At a meeting of the Committee of the Imperial Horticultural Society, during the examination of a fine collection of Scotch Hollyhocks, shown by M. Loise, of Paris, an animated discussion ensued as to the origin of the name, which in French is *Rose trémière*. Marshal Vaillant, of strategical memory, and the energetic defender of the canine race, when lately menaced in France—"What! will you kill the dog of the regiment?"—hazarded the guess that *Rose trémière* was derived from *Rose d'outre mer*, they having been thought to have come from Damascus (like the Plum), in some horticultural crusader's baggage. M. Brongniart (a difficult word in English indeed), thinks, on the contrary, that the word is derived from *Rose de trois mois*. Both of these suppositions are, doubtless, ingenious. M. Margottin is surprised that English cultivators change the names of French plants into English ones. M. Loise replies, that we are perfectly justified in so doing, as our cultivation and our numerous seedlings create quite new races. A box of locusts, from Algeria, is pronounced to be *Acridium migratorium* and *peregrinum*. They are supposed to be identical with those which ravaged Egypt in the days of Moses, and they are certainly the same as do so much mischief in Provence.

If it be any consolation to our horticulturists, our neighbours complain as feelingly of the plague of insects this year as we do, and the remedies suggested are equally numerous. Of these, your correspondent, having seriously injured his own trees in experimenting with salt and soft soap, thinks that petroleum might form a component part of some remedy.—T. C. BRÉHAUT.

LOBELIA SNOWFLAKE.

ALTHOUGH this was sent out last spring, no opinion has as yet been given of it. Hearing such flattering accounts of it, and emanating from such a respectable firm as Messrs. Lee, I bought a sealed packet, but unlike many of your correspondents who could not make it grow, to use Mr. Lee's own words, it came up "as thick as the hair on a cat's back." It received great care and attention as regards pricking-out, &c., as it was destined to make a row in a ribbon-border; but I would congratulate those correspondents who failed in raising plants, for it has proved a total failure here. In habit it is upright, it produces a few dirty white blooms, and half the plants are dead and dying. I hope some of your correspondents will give their experience of it.—THOMAS DRABBLE, *Winthorpe, Newark*.

LAXTON'S PROLIFIC EARLY LONG-POD PEA.

AFTER having grown the above valuable addition to our second early Peas, we have formed a different opinion of its merits altogether from that expressed by "AN AMATEUR" and Mr. J. Marsland at page 120. With us it has fully sustained the high character given to it at the time it was sent out. The pods are remarkably large and well filled, and of a very dark green colour; it is also a very abundant bearer. The flavour is equal to any other Pea coming in at the same time. What we have grown was from a sealed packet, and there was no mixture of Early Frame or any other variety among them.—JOSEPH E. OLIVER, *Estington Park Gardens*.

THE above Pea was sown at the same time as Maclean's Advancer, and was ready for gathering about a week after that fine sort, and notwithstanding the very flattering account I heard of it, I must say it very far exceeded my expectation, and was the admiration of all who saw it. Its height was 5 feet, and it was one mass of pods from bottom to top, the pods containing on an average from nine to twelve Peas. The soil here is gravelly, resting on gravel.—T. DRABBLE, *Winthorpe, Newark*.

THE letters of an "AMATEUR" and Mr. J. Marsland, in THE JOURNAL OF HORTICULTURE for August 14th, respecting "Laxton's Prolific Early Long-pod Pea," rather astonish us, as our own trials and those of numbers of our correspondents,

who have sent us testimonials in its favour, give very different results. We have ourselves Laxton's Prolific Long-pod Pea growing on our seed farms in Essex, raised from seed reserved from the same bulk as supplied to all our customers last season, and we are in a position to prove, that not only were there very few rogues in the whole crop, but that the Pea is in every respect equal to our advertised statements of last season—viz., that "for a second early Pea, and a Pea for early sowing in autumn, there is no Pea of a similar class in cultivation to equal it." We cannot but think that "AMATEUR" is not what he signs himself, and that he was not in a position to continually inspect the Pea for himself, as we have done at our farms, otherwise we feel sure his opinion of Laxton's Prolific Early Long-pod Pea would be different. We may add, orders are coming in so fast that we are afraid the demand will be, as last year, far in excess of our stock.—JAMES CARTER & Co.

CUPRESSUS MACROCARPA.

THE great Californian Cypress is one of the most ornamental trees we possess, and although only introduced about twenty years ago, it is already quite a tree in this country.

Since the introduction of the Silver Fir there is no hardy tree to compare with this Cypress in giving such a decided change to park adornment, and to warm the winter landscape. Over the United Kingdom this tree is perfectly hardy, of rapid growth, noble aspect, and robust constitution. Hartweg, by whom it was introduced to Chiswick, says it formed one of the noblest trees he had ever seen. Hartweg had for seven years previous to that date travelled over the great Coniferæ regions of South and North America, had seen the lofty elegant *Picea religiosa*, and many equally beautiful trees, and when he gave such decided merit to *C. macrocarpa* it was believed that it would be a rare acquisition. The magnificent trees to be seen over the country confirm Mr. Hartweg's first impression.

About the name of the above tree there is some confusion. Some who pretend to know insist that there is a proper distinction between *C. macrocarpa* and *C. Lambertiana*. I may as well say at once that I do not know the difference, if any. I have grown the tree under the respective names, and the trees were purchased from a nursery at the top of the list for extent and correct knowledge of such plants, but I failed to discover any tangible difference. Plants grown from seed and from cuttings of the same tree show a marked difference in a young state, but this apparent difference disappears after the growth of a few years. In this way nothing could be more distinct than the Funereal Cypress.

In regard to *C. macrocarpa*, there seems no reason why a synonyme should be retained, as the tree is botanically described under the above name, and Hartweg does not refer to any other variety; and he knew well what trees grew in Upper California.

Of the first plants distributed by the Horticultural Society of London two are growing at Woodstock, and are both very fine specimens; both plants were removed and transplanted five years ago; the height of the best specimen is now over 40 feet; the stem at 1 foot from the ground is 4½ feet in circumference. It would be impossible to imagine anything more perfect as a tree. Its cheerful green seems to warm the landscape as far as the eye can see it.

The Cypress tribe have not hitherto occupied much attention in landscape or park planting. Although the Cypress figures in the history of Rome and Greece, this family have only found a place in small gardens and dressed grounds, where trees proper are not admissible. The species of Cypress of which I write will rank with large trees, and it should be planted everywhere in masses where dense habit and cheerful green are desirable. What glorious picture and grouping will arise from the judicious planting of *Cupressus Udeana*, *C. macrocarpa*, and the upright Cypress. After this style I have planted the margin of a wood, which in a few years will add a new feature to the picturesque wood of this fine park.

On limestone gravel *C. macrocarpa* is the only Conifer that I have seen thriving well. It is complained by some planters that this tree will not stand on exposed situations. This is true, and it is the last tree that I would think of planting on very exposed ground, nor will it succeed on very dry ground; but there is no ornamental tree that I find more accommodating in soils suited for tree planting.

Mr. Cramb has told in the "Scottish Gardener" that *Pinus insignis* must be cut off the list of hardy trees in most parts

of England; I would recommend the large-fruited Cypress where the *Pinus insignis* has succumbed.—CHARLES McDONALD (in *Scottish Gardener*).

CULTIVATION OF THE MELON.

(Concluded from Vol. VIII., page 68.)

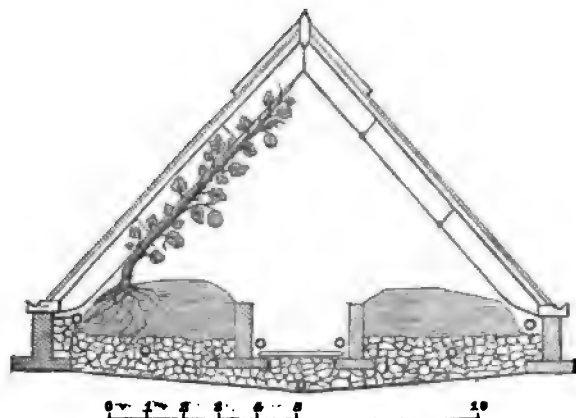
THE accompanying figure is the section of a house that may be built at a small cost, and there is no horticultural purpose for which it might not be employed with advantage. It has no front lights, yet the glass comes so low as to give light to every part. A house of this description would cost very little more than an ordinary pit with brick walls, and could be converted into a greenhouse or store-house for bedding plants in winter, or a forcing-house for flowering plants or vegetables. A very good use for such a house would be to fill it with Vines in pots, starting them in the beginning of December, so as to ripen the Grapes in May, and the house might then be planted with Melons, to fruit in September and October. The house is represented with four four-inch hot-water pipes for top heat, and two for bottom heat, so that it might be used as a forcing-house in winter; but if for plants merely requiring protection from frost, two of the top pipes might be dispensed with—namely, those situated in the path (under which there is a drain), and if it were not desirable to have Melons at an early season, those under the beds, for bottom heat, would not be required. The house would then be exceedingly well adapted for preserving bedding plants, and very useful for Melons, after being cleared of its winter occupants.

The house having been cleared by the last week in May, it is prepared for the reception of the Melons, which I shall presume to have been raised elsewhere, and to consist of two descriptions of plants—viz., one stopped and trained with a single stem to run on a rafter and wires 9 inches from the glass, and others stopped at the second rough leaf, and trained to run over the surface of the beds. The border, if it consists of strong rich loam approaching clay, could not be better suited for the Melon, and it will only be necessary to dig out a hole 10 inches deep under the centre of each light, or 5 feet from centre to centre, and exactly in the centre of the beds, and fill it with rich turfy loam. Beneath each of the rafters, which are wired the same as for Vines, a pit is likewise made, and filled with rich soil forming a cone with a flattened top on which the Melons are to be planted, one plant in each pit so prepared, and watered well at the time. Should the soil be light and poor, that of the beds should be wholly taken out, and replaced with 10 or 12 inches of strong, rich loam. The stronger the soil the more abundant and finer will be the fruit.

After planting the house should be kept close, admitting no air until the thermometer indicates a temperature of 80°, then only a little, and if the temperature rise to 90° all the better; only shut up by the time the temperature sinks to 85°. The atmosphere should be kept moist by syringing, between 4 and 5 p.m., and not later than 6 p.m., every available surface except the foliage, with liquid manure, which will cause the atmosphere to be sensibly charged with ammonia. Unless the operator is experienced in applying manure water, soot water is a more safe liquid. A peck of soot will make thirty gallons of the most deadly poison to red spider, and a fertiliser having but few equals, and so will guano water made at the strength of 1 oz. of guano to four gallons of water. The plants should also be kept well watered, taking care not to saturate the soil, and may be supplied with liquid manure after the fruit is set and swelling. The atmosphere should be kept rather drier when the flowers are setting, and the quantity both of atmospheric moisture, and water at the root, should be reduced as the fruit approaches maturity. The labour involved in frequent waterings may be lessened by mulching the surface with short littery manure or cocoa-nut refuse, so as not to render the operation necessary oftener than once a-week.

There will be a plant to each rafter at 3 feet apart, one between each of these in the centre of the bed, also at 3 feet apart; and these producing three and four fruit, averaging 2 lbs. weight each, the produce will far exceed that obtained in the ordinary mode of culture. The plants on the rafters should be confined to a foot wide—that is, 6 inches on each side of the centre wire, and this is ample for a Melon plant trained with one stem. If allowed to sprawl over the whole of the roof it is of little use expecting fruit from the plants in the beds, as they will be deprived of light to such an extent that they cannot do much good. On the other hand, the plants on

the rafters will afford those beneath them an agreeable shade and the latter will produce larger fruit, though not so well flavoured. In certain cold seasons the heat of the sun may not be sufficient to maintain a proper temperature within the house, a little artificial heat must then be given, and in certain cold districts a little of such heat may at all times be required; but in most seasons and localities Melons of good size and flavour may be obtained in unheated houses, by husbanding the sun heat, and providing a structure having a large surface of glass as compared with that of the wood.



My attention was first directed to the cultivation of the Melon in unheated houses from finding a plant spring up almost spontaneously in a frame used for an early crop. It had no heat whatever beyond that of the sun, and very little attention, yet it grew so as to fill two lights, and produced four fruits weighing upwards of 2 lbs. each. The kind was the Egyptian, which when well grown may be taken as a standard of excellence for a green-fleshed Melon. Since then I have grown Melons in cool structures heated by catching the sun's rays, and I do not hesitate to say that Melons can be grown in cold frames if the plants are strong and planted out in good time. Let the fruit be set in July, or by the middle of August, and then a crop quite equal if not superior to such as are obtained in heated structures will be the result. Abercrombie speaks of growing Melons in paper frames, and I know them to have been grown in England with the simple protection of a hand-glass; but though the climate of England is no colder than it was formerly, it is certain that we now grow kinds totally unsuited for such treatment. To grow Melons successfully, with certainty, and to the highest degree of perfection, they require artificial heat, except in the hot summer months, and then care must be taken to husband the sun heat as much as practicable.

The properties of a Melon I think should be—1st, it should not weigh less than 1 lb. 2nd, it should be netted regularly all over, and the more so the better. 3rd, the rind should be free from furrows, or be perfectly spherical or elliptical without any indentations, though flattened at the two ends. 4th, the flesh should be thick, and be eatable quite to the rind, and be melting, sweet, and piquant. 5th, the core should be small, and easily divided from the flesh. 6th, the seeds should be few, and not mingled with the flesh. In constitution the plant should be hardy, vigorous, and productive. In judging a Melon the points may be—flavour six, appearance two, thickness of flesh two, core small and seeds not mingling with the flesh two, or twelve points to constitute a good Melon. No fruit under 1½ lb. to be eligible for a prize, nor size above that to be taken into consideration, unless the fruits be equal as regards flavour, when, of course, all points being equal, preference would be given to a large Melon. It is very rarely, indeed, that a large Melon is equal in flavour to one not half the size.

VARIETIES.—I have found the following the best of the scarlet-fleshed class:—

Scarlet Gem.—A standard of excellence, being of a fair size, finely netted, spherical in shape, and of the finest flavour. It is early and prolific. Plant hardy, and though small in foliage a free grower.

Cantaloupe.—Of this the variety known as the Early Royal is the best. Lawrence's variety is very fine. These are chiefly

desirable on account of their earliness. The fruit is spherical and much ribbed, too much so to be handsome.

Bignell's Scarlet Flesh.—The fruit is elliptical, much ribbed, very prolific. The plant is of slender growth, though by no means tender. It is a fine variety for preserving, and very good for dessert.

Princess Alice.—Much resembling Scarlet Gem, spherical finely netted, flesh thick, and not so firm as that of Scarlet Gem, melting and excellent.

Prince Imperial.—Simply a red-fleshed Beechwood, elliptical.

Queen Victoria.—A scarlet-fleshed Bromham Hall, fine, spherical.

Lady Sefton.—Fine.

Empress Eugénie.—Finely netted, and good flavoured, spherical.

Scarlet Perfection.—Large and much ribbed, juicy and rich, but would be finer without the ribs.

Mounaden's Moreton Hall.—Of fine flavour, and good shape. I have not grown this variety, but I think it very desirable.

Of green-fleshed kinds:—

Golden Perfection.—Elliptical, beautifully netted, and very handsome, flavour good.

Egyptian.—Spherical, ribbed, netted, and fine flavoured. One of the best in that respect.

Bromham Hall.—Fruit handsome, and most excellent.

Trentham Hybrid.—Egg-shaped, smooth skin, delicious flavour.

Meredith's Hybrid Cashmere.—Handsome, and of the most delicious flavour. To my thinking the finest Melon in cultivation.

Orion.—Early and fine, large fruit.

Beechwood.—An old, but excellent-flavoured Melon.

Trentham Cocoa-nut.—Fine.

I have had experience with upwards of a hundred varieties of Melons, but have not found any to equal those named.

DISEASES.—The plant going off at the collar is the most serious. It is occasioned by the collar not being sufficiently high to cause the water to drain from, not to it, by wetting that part in watering, and by keeping it covered with leaves, and, therefore, deprived of light and air. The preventives are to plant on a cone so that the water may drain from the collar, to keep the stem clear of side branches and foliage for a space of at least 6 inches from the root-stem, and not to wet that part in watering. When once this disease has commenced there is no remedy, it is a disease that cannot be arrested, though it may be kept partly in check by clearing the leaves away that shade the part, and rubbing it with quicklime until it becomes dry. Quicklime may then be placed against the stem so as to cover the part affected, removing the lime every four or five days, and, after rubbing the decayed part away until it becomes dry, placing fresh lime around it. This will keep in check the fungus which accompanies the decay, but beyond this it is certain that no application can arrest for any considerable period a decay which has taken firm hold of an annual plant, though by adopting remedial measures it may be retarded long enough for the fruit to arrive at perfection.

Melons are also liable to a kind of gangrene or gout. It consists of an exudation from the stems, and is of a bright brown colour, for though white at first it afterwards changes colour just as the juices of a cut branch turn brown or red on exposure to the atmosphere. This disease is chiefly brought on by growing the plants in very rich soil, and after allowing a large expansion of foliage reducing it all at once very much. This causes the stems to be gorged with the food absorbed by the roots, which the leaves are unable to elaborate, hence the vessels become ruptured and the sap bursts through the skin of the stem, occasionally splitting it open between the joints. This disease never, to my knowledge, attacks plants grown in moderately rich soil, when the head is kept in due proportion to the root, and all prunings are confined to stopping the shoots by pinching out their points, and thinning out the shoots proportionately with their increase in another part. When grown in rich soil it is not unusual to find the plants gangrened along the stems, for then the amount of nutriment taken up by the roots being more than the plant can assimilate it finds a way of escape through the stems. The fruit formed is generally large if the plant lives to perfect it (the plant frequently dies when the fruit is about three-parts swelled), the flesh is hard, the flavour poor, and most of the seeds abortive. To avoid gangrene grow the plants on a more natural principle, do not use the same soil twice, and encourage no more growths than are necessary for obtaining and perfecting a crop of fruit.

Cracking of the fruit is a very common occurrence, and arises from the atmosphere not being kept sufficiently moist whilst the fruit is swelling. The fruit is most liable to crack in kinds which have the juices highly concentrated, as in the case of all highly-flavoured Melons—Scarlet Gem for instance. It is hardly possible to grow fruit of that kind to any considerable size if the swelling take place during very bright weather, without a slight shade to break the force of the sun's rays from 10 A.M. to 3 P.M. The shading also diminishes the amount of evaporation, and prevents the concentration of the juices of the plant in the fruit being carried to such an extent as to cause the rind to become hard and incapable of expansion. Without a moist atmosphere, and slight shade during intense sun heat, the rind of some Melons becomes quite hard, and the fruit would, indeed, be perfect sweetmeats did not our climate change suddenly from a dry hot state to one of moisture and cloud. As it is, however, after a Melon has been acted on for three weeks or a month by a powerful sun and dry atmosphere its rind becomes quite firm; then the weather changes from being extremely dry to extremely wet, from a state tending to the maturity of fruit to one of growth; the plant starts into fresh growth, and more sap is impelled into the fruit, but the rind is incapable of expansion, and the sap so fills the interior of the fruit as to cause the rind to crack. I know of no mode of preventing this result except by swelling the fruit in a moist atmosphere, and after the full size has been attained to maintain the soil and air in a dry state.—G. ABBEY.

GRASSES FOR LAWNS.

(Continued from page 126.)

CYNOSURUS CRISTATUS (Crested Dog's-tail Grass).—This Grass, of which the accompanying is representation, is thus described in a former volume. "The roots are tufted, with long unbranched fibres. Stems several, varying in height from 12 to



18 inches, unbranched, very stiff, hard, round, smooth, with three or four joints, most leafy in the lower part, remaining brown, withered, and wiry with their dry, empty spikes through the latter part of summer. Leaves bright green, short, narrow,

flat, smooth on both sides, edge scarcely rough, with long, smooth, streaked sheaths. Abrupt or ragged-ended and rather short stipules. The head, or spike of flowers, about 2 inches long, erect, stiff, straight and narrow, green; florets all turning to one side, sometimes purple, with a wavy rough stalk (rachis). Floral leaves divided deeply into awl-shaped segments. Husks or glumes usually containing three florets. Smaller valve of the blossom ending in two points; larger valve ending in a short awn. Anthers prominent, pendulous, purple. Stigmas white, feathered. Seed longish, oval, pointed, reddish yellow, covered with the valves of the corolla."

The Crested Dog's-tail Grass is a perennial, and succeeds well on dry gravelly soils and in hilly situations. It is valuable for parks and lawns on account of its dwarf slender growth; and is likewise admirably adapted for bowling-greens, for it bears treading well, and is not liable to become brown in summer. It is one of the best of all Grasses for resisting dry weather.—G. ABBEY.

(To be continued.)

GLEANINGS.

THE Council of the Royal Horticultural Society have arranged that Mr. Eyles, the Superintendent of the garden at South Kensington, shall give to Fellows of the Society his advice and assistance in the laying out and management of their gardens, at the rate of one guinea per visit, with travelling expenses. Such a boon as this is will, we have no doubt, be greatly valued by the Fellows, who will now have an opportunity, at a trifling cost, of securing the services of one who has for many years had unexampled opportunities of carrying out some of the most extensive horticultural works in this country. We believe Mr. Eyles was a pupil of Sir Joseph Paxton at Chatsworth, and accompanied him to the Crystal Palace at Sydenham, whence, after several years' engagement, he was appointed to carry out the works of the South Kensington Garden, according to the design of Mr. Nesfield.

It has been determined that the Royal Horticultural Society shall hold an annual autumnal Show in the provinces, in co-operation with the Royal Agricultural Society, and that the attempt will be made next year at Bury St. Edmunds, provided the necessary encouragement from the district can be held out to the Society. We have always been of opinion that the Society should be to a certain extent migratory, and exercise the same national influence in horticulture as the Royal Agricultural does in agriculture. There is no reason at all why, with a twelvemonth's previous intimation, the Society should not be able to make as large and as good an exhibition in the provinces as is made in London; and there are many classes of subjects which could be exhibited in fine condition at these autumnal shows which are never seen at the metropolitan exhibitions. We have had of late years metropolitan exhibitions *ad nauseam*; let us see if we cannot vary the order of things, and encourage the cultivation of a large number of plants which have hitherto been left to themselves, but which, if taken in hand, and the same care bestowed on them as has been given to the earlier-flowering kinds, will amply repay any attention that has been given them. We might instance the Zonale Pelargoniums, which have now become exhibition plants. The metropolitan shows are all too early to see them in perfection; and were they grown as we know some of our best gardeners can grow them, what a gorgeous exhibition they would make!

It is intended to make a complete collection of all the known varieties of Strawberries in the Royal Horticultural Society's garden at Chiswick this autumn. There are already nearly all the old varieties in the existing collection; and the Council would be obliged if the raisers or possessors of new varieties would be so good as to forward a few plants of each, so that a correct comparison of their various merits may be made.

OUT-DOOR GRAPES IN CANTERBURY, NEW ZEALAND.—The hardy varieties of wine Grapes are beginning to thrive and bear fruit with us now that we are beginning to get more shelter for them in our gardens. The two varieties which I have fruited this season in my garden are first, the Black Cluster or Black Burgundy. It is a first-rate wine Grape; succeeds on the open wall in England, and out of doors here. I consider it a very excellent out-door Grape for this climate on account of its hardiness; it is also with us a very excellent cropper. The

leaves become of a beautiful bright scarlet every autumn before they fall off, and in Australia are sometimes used for colouring white wines. The second variety is the White Muscadine or White Grape from Teneriffe. This is at no time a high-flavoured Grape. It ripens very early in England out of doors, and may be said to do the same here. It is in consequence of its hardiness, productiveness, and certainty of a crop, more grown than any other Grape.—W. SWALE.

WORK FOR THE WEEK.

KITCHEN GARDEN.

The clearance of all crops as soon as they are exhausted, and the destruction of weeds, conduce not only to improve the appearance of a garden, but are actually, with reference to the soil, a work of economical importance. In regard to prescribed periods of sowing, it is advisable to study both the soil and locality of a garden, that its advantages and inconveniences may be understood. There are localities where it is necessary to deviate considerably from ordinary practice to meet their peculiarities. *Cabbage*, it is a good time to sow for spring use, also the *Deptford Onion* and *Cauliflower*. *Endive*, the late planting must be made forthwith; this planting will be eligible to move with balls of earth into frames in November, the soil must be very rich. *Green Kale*, let a good breadth of this and *Coleworts* be got out on well-prepared ground, also the residue of the stock of Brussels Sprouts and Savoys may be usefully employed to fill up vacancies. *Lettuce*, a rich border should now be made ready, and planted with Bath or Brown Cos, these will furnish a supply in the open ground until Christmas, provided they are protected. This is also an excellent time to make a sowing of the Brown or Bath Cos and Hammersmith, to remain where sown through the winter. The beds should be elevated considerably, the higher the better, and the seed scattered broadcast rather thinly. *Tomatoes*, if they are over-luxuriant, cut away a portion of the roots. *Turnips*, the sowing must not be neglected.

FRUIT GARDEN.

The preservation of wall fruit from birds and insects should occupy attention. The beanstalk earwig-traps should be frequently examined. Worsted or other small-mesh netting may be employed with advantage to protect Green Gage or other Plums, the scarcity of which fruit this season invites such precautions. Look carefully over Peach and Nectarine trees, and remove nails that are too close to the swelling fruit. In stopping and arranging the wood let only as much as can conveniently be laid in be allowed to remain, and let that convenience be qualified by due consideration for the perfection of the fruit and the proper ripening of the wood, which only the influences of sun and air can accomplish. It is also an error in another respect to retain a large amount of wood, to be removed inevitably in the winter pruning; an undue excitement and extension is given to the roots, which, by a superabundant supply of sap, induce in the spring the growth of rank and unmanageable wood. The only effectual method of curing a gross habit of growth is root-pruning, or keeping the roots within proper limits by means of shallow, well-drained borders. Should it be found that the shoots after stopping incline to start into growth, it will be advisable as soon as the fruit is gathered to open a trench at a moderate distance from the stem of the tree, cutting the stronger roots. This will be of the greatest service in checking growth, and will probably do more towards securing ripe wood than anything else that could be adopted. Get Strawberry plantations intended to stand for next season trimmed as soon as convenient, cutting off and clearing away the runners, so as to afford the leaves plenty of room. Look carefully over varieties of Pears ripening, and gather those that are fit, for if allowed to hang after they are ripe birds are sure to find and attack the fruit before it is fit for gathering, so that the crop will probably be spoiled unless it can be netted up. Where Currant trees are covered with mats, which, by-the-by, are very inferior to close nets for this purpose and much more expensive, the trees should be uncovered occasionally on fine, dry days, so as to expose the fruit thoroughly to the air in order to prevent its being injured by damp, &c.

FLOWER GARDEN.

Mowing will not be so frequently required as heretofore, once a fortnight or three weeks will be sufficient. Sweeping will now be in greater requisition, as the sere and yellow leaf is beginning to fall from the trees and shrubs; the lawn and walks should be gone over every morning. The roller, too,

should not be forgotten. Attend to the destruction of weeds, by hoeing and hand-picking. Tie up climbers, dress the edges of beds by pegging and tying; if encircled with basket-work, pay the greater attention to order and good keeping. The propagation of stock for next year's decoration must be actively proceeded with. Large evergreens intended for autumn removal should now be prepared for the purpose. A trench should be dug round the tree nearly to the depth of the lowest roots; the advantages attending an early preparation of this kind are manifest. Decay of some of the earlier flowers will now begin to leave blanks, which will not be easily filled up unless a stock of large plants in pots has been provided. In mixed beds some of the late kinds of Phloxes, Asters, &c., may occasionally be untied and made to occupy three or more sticks in order to fill the blanks. Petunias and other plants of gross habit should have a pruning betimes to keep them within bounds. A few Crocuses, Snowdrops, &c., may be planted soon to obtain an early bloom.

GREENHOUSE AND CONSERVATORY.

The usual quantity for a season's supply of the kinds of soil used in potting should be laid in as soon as convenient, and before the ground is sodden with the autumn rains, for even turfy soil should not be carted and stacked-up when saturated with water. The soil should be neatly put up in narrow ridges, so as to be safe from wet, and exposed as much as possible to the action of the air; and as success in plant-growing very much depends upon having suitable soil for potting, no trouble or expense that may be necessary to procure this should be spared where well-grown specimens are expected. Loam of moderately good quality may be obtained in most neighbourhoods; but good peat is not to be had in many localities. This is absolutely necessary, however, for the growth of choice hardwooded plants, and should be procured at the proper season, so as to have it in a fit state for use when wanted. Stove plants flowering in the conservatory will require attention to prevent their being injured by damp, especially Achimenes and Clerodendrons, which should be gone over every day in cloudy weather, carefully picking off decayed flowers, &c. Camellias may be grafted: the operation may be performed with the greatest success by pursuing the French method, which is merely inserting that portion of wood which includes a bud and leaf, cut longitudinally, into a corresponding cleft in the stock. The grafted subjects should be plunged in bottom heat, and kept covered with hand-glasses for at least a month. The tender Rhododendrons may be increased in the same way. Pelargoniums which have been cut down and have commenced to grow, may be shaken out of their pots and repotted in others of smaller size. Give attention to the Chinese Primulas, and sow Mignonette for blooming late in the season. Shift Chrysanthemums, and regularly attend to stopping and watering, a little manure water will be found useful. Prick out and pot seedling Cinerarias for early blooming.

STOVE.

Continue former directions in this house as to heat and moisture; and by giving plenty of air endeavour to get your Ixoras and similar plants to make strong luxuriant shoots, which, if properly ripened, are sure to produce fine heads of bloom. Successions of Brugmansias, Clerodendrons, Euphorbias, Poinsettias, &c., should receive a last shift, in order that they may produce a rich display in the conservatory. A batch of such plants as Thunbergias, Ipomeas, Jasmines, Stephanotis, Passifloras, &c., should be trained up ornamental trellises without delay.

COLD PITTS.

Young stock intended to flower next season should be exposed to the midday sun in order to ripen the wood, taking care not to do this so rashly as to injure the foliage. This, however, will only be proper in the case of such things as have already made plenty of young wood; but it is advisable after this season to be anticipating the approach of winter, and to use every possible means to forward the growth of valuable hardwooded plants, in order to have it somewhat firm and able to resist damp, &c., as soon as possible, and this is especially necessary where the plants have to be wintered in these structures.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Celery.—Earthed up a piece of the earliest to be fit for use in a fortnight or three weeks. The general crops though healthy and of a dark green after the slight dusting with soot,

have not mounted up as we would wish, and on close examination we found that all the rains we have had were not quite sufficient for it, and therefore ventured on a good soaking of house sewage, which we have no doubt will make the plants larger, for at present they are thick and stocky enough. The beauty of the White Incomparable is that so little earthing up is necessary, for if the plants are from 15 to 18 inches in height you can have from 12 to 15 inches fit for table, and Celery seldom appears there more than a foot in length, if plants of tall sorts should be banked up a couple of feet or more.

Peas.—Ran the fork slightly along the sides of rows of late Peas, and gave them likewise a soaking of sewage water. The more luxuriant the tops the drier were they at bottom, as the stems and foliage throw the water past them, and no more fruitful source of mildew is to be found than a moist dripping atmosphere, as we have lately had, with anything like extra dryness at the roots. Treated the latest Broad Beans in the same way. The later Kidney Beans were growing too strong to need such help, but gave a watering to Scarlet Runners bearing heavily.

Cabbages.—Gave a watering with sewage to the first Coleworts, just beginning to heart nicely, also to succession crops, and planted out more in rather a shady place, which will be useful after Christmas, if the weather is at all mild. We would have given a soaking to an old piece of spring Cabbages if we could, as it is now a thicket of young Cabbages, which will be very useful. Threw some wood ashes and a little soot among the Cabbages sown for the first crop next spring, as having come up rather thickly the continuous drizzle threatens to cause some of them to lose their legs. Will prick out as soon as they are a little larger. Sowed also for a succession crop, and covered with net a foot above the ground, alike to keep birds and rabbits from the seed and young plants.

Cauliflower.—Sowed for the main crop, the first for hand-lights is just above the ground. Planted out a good space on sloping banks with young plants, which will come in well with a little protection if the weather be favourable, and a few may be lifted and protected in sheds and under glass. Gave a good sewage watering to a piece just beginning to show their heads. All Cauliflowers for pickling should be had before this time, as henceforth they are apt to come more open and with scarcely such a bright white colour, though the crop in general may be very good.

Watered, also, the late-planted Broccoli, Greens, &c., and as soon as we can get at them, will plant a few Greens between Gooseberry bushes, &c., where they often come in serviceable in spring.

Weeds.—Of all seasons, this is No. 1. Even such things as Chickweed, which in the kitchen garden we had scarcely noticed for years, seemed to threaten to overrun borders of Strawberries, and quarters of Greens, growing with a rapidity quite unexampled. There is nothing for it but a free use of the Dutch hoe, before the weeds grow large, as when weeding must be resorted to, there is no end to the labour. We hear similar complaints from all quarters. We shall only be relieved from this extra labour by a course of fine, dry, bright weather, which we have every hope we shall have before long. We have heard of a kitchen garden being left to itself for one year, allowed, in fact, not to lie fallow, but to be untouched—left to produce and perfect just what it pleased—and been told that thirty years of extra labour would not mend the mischief. We have this season seen one large cottage garden that was passing its second season in a state of nature, and the masses of Chickweed, Groundsel, and Thistles, were in themselves a sight. Enough of seed would there get imbedded in the ground to give work for at least one generation of occupiers, and to furnish a supply of all the winged kinds for miles round. We can thus have plenty of weeds from the winds, and our own neglect.

Mushrooms.—We have not yet been able to make any spawn; but no better time than the present can be selected, as we may expect, however made, that the spawn will now dry quickly. Directions and references were given the other week to a correspondent. It may simplify matters to say that we have often made spawn of horse-droppings alone, with just enough of water and soil, to get it wrought into a stiff dough-heap. We have oftener made it of horse-droppings and enough of fresh cowdung to enable all to be beaten into a tough heap. Road drift, soil, cut straw, &c., may be added at pleasure, only it may be noticed that the spawn runs rather more quickly when the material is not so very compact. We have never had it better

than when made solely of fresh horse-droppings, and fresh cowdung.

Our first piece or bed in the open shed has been producing nicely for some time past. The part in the shed made last, in the previous autumn, gave us a fine return in summer, after beds in the Mushroom-house, from the heat, gave over bearing. We have several times before had a supply from these beds in the shed, after we thought they had done bearing, partly owing, no doubt, to the beds standing on the cool ground. These beds in the shed have always been shallow, not more than about 15 inches thick, and were formed of no finer materials than stubble, litter, &c., with 2 or 3 inches mostly of droppings on the surface, in which the spawn is inserted. Of course, we like droppings, with a little litter best, but in these shed-beds they seem to produce longer in proportion to the lower portion of the bed being of a more open, less rich material. We have never done so well in summer with beds made on the ground in the Mushroom-house, as in this open shed, partly owing to the attacks of woodlice in the house in summer, and partly owing to the air that is given coming more in draughts than in the open shed, which is open to the front all the way, and the force of the wind, and the afternoon sun, broken by hurdles set along, with branches or a little straw in them, and the shade of trees near at hand. There is plenty of air, therefore, over the bed, and yet little or no keen draught.

A second larger piece has been spawned and earthed-down, and as soon as we can, we will remove the piece that has produced late, and have a third larger piece in the thatched shed. We have seen none out of doors in the pastures this season, and it is best to be independent of them.

As soon as we can get all the old beds cleared out of the Mushroom-house we will shut it up, and smoke it with burning sulphur, and a little turpentine probably, to kill everything in it that we possibly can, merely as a preventive to being troubled with woodlice, snails, slugs, &c.; but this will not prevent us taking in those pests with the manure which we use for the beds. Hence we seldom are much troubled with these gentry in winter, but do what we will, trap, kill, and slay, we never are quite free of them after the warm spring months in the house, whilst they trouble us little in summer in our outside shed-beds.

Of late so much of the details of Mushroom culture have been given that we have let it alone, so as not to be wearisome; but as some correspondents complain that still they do not succeed, we would again mention the simple elements of success. 1st, The spawn must be good, which you will know from the smell, and being well filled with whitish threads not much larger than the finest cotton or gossamer. 2nd, The material of the bed should be in a medium between wet and dry, rather inclining to dry. If rather dry, a moist coating may be put over the bed before the earth is put on. If the dung is so wet that by hard squeezing you could make the least juice exude, and you cannot make it drier, then each piece of spawn should be wrapped in a handful of short dry litter. 3rd, The heat of the bed when the spawn is inserted should never be greater than that of new milk, and never warmer afterwards. The bed may range from 75° to 85°. The atmosphere round it, of the house, &c., should not be higher than from 55° to 62°, if under 60° all the better. If we are rather afraid of the bed getting hot we insert the spawn near the surface. By doing so when the heat declines all right, this enables us to place an inch more of good material over the bed before placing the earth on. 4th, We have used all kinds of earths, light and stiff, and with good results; but we prefer stiffish loam put on rather wet than dry, beaten well down with a mallet, and the surface made smooth, then watered, and a clean spade drawn over it lightly, so as to leave a smooth hard surface. The hard surface is chiefly useful for enabling us to sweep the surface of the bed with a hair broom. The thickness of our soil when beaten ranges from 1 to 1½ inch. We put on the soil as soon as the heat of the bed begins gradually to fall after spawning, as, from the compactness of the soil, there is no chance of the temperature rising afterwards, except by the healthy increase of heat promoted by the working of the spawn, which as it works will always raise the temperature.

In most old works there are very definite directions given as to boring holes in Mushroom-beds to make them cool enough before spawning them. In shallow beds, as our's have necessarily been, ranging from 12 inches in-deors to 15 or 18 outside, we looked upon the boring as a waste of material, as the air so promoted decomposition. We prefer using layers at different times, and dispensing with holes by making the sur-

face firm so as to exclude the air as much as possible, and thus save our material. It requires a little time to get an assistant to believe that a bed thus firmly made will cool sooner so as to be fit for spawn, and also keep a more regular heat than a bed left looser, or with holes left in it for the air and its oxygen to increase heat in the first place by a more rapid decomposition.

And lastly, for a continuous supply and with limited material, we like small shallow beds in succession, and to be earthed-up as soon after spawning, as watching the trial sticks makes it out to be safe. The closeness of the earth will prevent extra heating afterwards. By this succession-plan, the spawn works in the bed for support, and works upwards through the soil at the same time. In our young days we helped to make some fine beds, and with such fine prepared material as we have since sighed for in vain, and we have since attributed the small success afterwards partly to the dryness of the place, the dryness of the material, and to the fact, that in order to have all the beds made before autumn, several of them would be spawned for months before they were earthed-up. We have known cases of beds being full of spawn in such cases, and yet from dryness the spawn had no power to come through the soil in the shape of Mushrooms. We have for many years been forced to spawn and earth-up as we go, and the necessity of thus making the spawn work down in the bed and up in the earth has had no bad result, so far as securing regular crops is concerned. In houses where a generally moist atmosphere can be maintained in winter, it is of little consequence whether the beds are covered with a little hay, or not, though the Mushrooms will come rather quicker with such a sprinkling; but earlier and later in the house, and in summer in sheds out of doors, such a covering is most useful, not only for securing a more uniform temperature, but also with the help of a slight syringing at times, securing that muggy rather close atmosphere, without keen draughts, in which all the fungus family so much delight.

FRUIT GARDEN.

Very much the same as last week. Strawberries should now be cleaned as soon as possible, and plants for forcing potted without delay. Many Apples threaten to be so much smaller than usual, that if we had time we would water dwarf standards; but for most sorts there will yet be a couple of months good swelling time. Gave a good watering to trees in orchard-house where the fruit are swelling fast and ripening. Were forced to fork over the surface to let the moisture go deep enough. The dropping off of fruit before they are ripe is more owing to dryness at the roots than is generally imagined. Where mulching is not resorted to, heavy waterings will be wanted after stoning for stone fruit in-doors, but too much must not be given at one time, or the extra stimulus will throw the fruit off. Removed a good portion of the laterals from Vines, and stopped and regulated late Melons. Watered Figs in-doors and out of doors.

ORNAMENTAL DEPARTMENT.

Much time has been taken up securing Hollyhocks, Dahlias, and tall herbaceous plants, among which some high winds had revelled. Grouped flower-beds have suffered but little from the winds owing to being bushed with twigs, but their lustre was rather dimmed by the continuous rains. Even Calceolarias have had only a promise of waterings this season. If the hoped-for dry weather come, we should like to mulch them with spent Mushroom dung. As yet they have done well. We have put in a portion of cuttings for next year's supply, but we have so entered into the minutiae, and other friends are now giving the results of their experience, that an article on the subject would be next to superfluous just now. Pansies, and many other herbaceous plants may still be propagated by cuttings in a shady place, and more especially if hand-lights can be used, with air left on at night. All the China, Perpetual, and Noisette Roses may also be struck in a cool, close place, and a little heat given as soon as the base is swelled. Planted out and divided lots of single and double Violets, and regulated Neapolitan in a pit for free winter blooming. A little sulphur is no bad thing for keeping mildew at a distance. Potted Cinerarias; pricked off and repotted Chinese Primulas. We will not trouble with Calceolaria cuttings until the end of October, if no frost threaten. Azaleas and Camellias set out of doors must have the pots defended from fierce sun. All the large Cactus tribe set out of doors, to have the stems well ripened by roasting against a fence, should have the pots pro-

tected from heavy rains. Lillacs, Deutzias, Prunus, Roses, &c., intended for forcing should now have all the sun possible, and water be gradually withheld, so that the tops may not suffer. Sweet Gardenias should now be kept rather dry and cool under glass, and then when set to work after the shortest day, or before it in moist heat, they will quickly swell and open their sweet blossoms. All the more tender greenhouse plants, as Croweas, Epacris, and even Heaths, should now, if not under glass, be protected from heavy rains, and also from frequent drizzling showers, as that helps much to bring on mildew. In fact, where room is abundant, Camellias, Azaleas, and such as the above in pots, will do better if always sheltered by glass in houses or pits, and shade, air, &c., given according to the requirements of the plants. *Pelargoniums* should now be pruned-in, cuttings inserted, and the first pruned back shaken out of their pots and repotted. Seeds of *Pelargoniums* may now be sown. In potting fancy *Pelargoniums*, the soil should be lighter, and the pots smaller, than for the larger florists' kinds. In both cases the pots should be thoroughly cleaned and well dried before using them, and the soil should be mellow, neither wet nor dry. Looked over climbers in the greenhouse, lessening their bulk, to give more light to the plants below, and but for expected bright weather would lessen the whitening shading, which saves watering, and enables a moist atmosphere to be kept up with greater ease. Did the same as respects the stove, thinned out the *Passifloras*, &c., considerably, and soaked *Stanhoopes* in baskets, in bloom, and out of bloom and coming into bloom. Potted and top-dressed *Gesneras*; *Balsams*, and many other softwooded plants now coming into bloom will be better of rich top-dressings of rotten dung. The roots are thus kept more equal as respects moisture and temperature, and that is a great means for keeping off spider and green fly.—R. F.

COVENT GARDEN MARKET.—AUGUST 25.

THE market is tolerably well supplied with both fruit and vegetables, there being plenty of Peaches from Jersey, and these keep the price of English fruit down. Green Gage and other Plums are scarce and command good prices. Pears consist of *Beurré d'Amanlis*, *Bon Chrétien*, and *Jargonelle*.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	2	0	3	0	Melons..... each	2	6	5	0
Apricots doz.	2	0	4	0	Nectarines doz.	4	0	8	0
Cherries lb.	0	4	1	0	Oranges 100	13	0	20	0
Chestnuts bush.	0	0	0	0	Peaches doz.	6	0	15	0
Currants sieve	5	0	6	0	Pears (dessert) . . doz.	1	0	3	0
Black do.	5	0	8	0	Kitchen doz.	0	0	0	0
Figs doz.	1	6	3	0	Pine Apples lb.	8	0	5	0
Filberts lb.	0	6	0	9	Plums ½ sieve	7	0	0	0
Cobs 100 lbs.	0	0	0	0	Quinces ½ sieve	0	0	0	0
Gooseberries . . quart	0	4	0	6	Raspberries lb.	0	6	0	0
Grapes, Hothouse. lb.	2	0	5	0	Strawberries lb.	0	6	0	0
Lemons 100	6	0	10	0	Walnuts bush.	6	0	8	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Artichokes each	0	2	to	0	4	Leeks bunch	0	3	to	0	0
Asparagus bundle	6	0	8	0	Lettuce per score	1	0	1	6		
Beans, Broad. . bushel	5	0	0	0	Mushrooms pottle	1	6	2	6		
Kidney . . ½ sieve	2	0	3	0	Mustd. & Cress, punnet	0	2	0	0		
Beet, Red doz.	2	0	3	0	Onions. . doz. bunches	4	0	6	0		
Broccoli bundle	1	0	1	6	Parsley ½ sieve	2	0	0	0		
Brus. Sprouts ½ sieve	0	0	0	0	Paranips doz.	0	9	1	6		
Cabbage doz.	1	0	2	0	Peas per quart	0	9	1	6		
Capiscums 100	0	0	0	0	Potatoes bushel	2	0	5	0		
Carrots bunch	0	4	0	8	Kidney do.	8	0	6	0		
Cauliflower doz.	2	0	6	0	Radishes . doz. hands	0	6	1	0		
Celery bundle	2	0	8	0	Rhubarb bundle	0	4	0	8		
Cucumbers each	0	4	1	0	Savoy doz.	0	0	0	0		
pickling doz.	0	0	0	0	Sea-kale basket	0	0	0	0		
Endive doz.	2	0	0	0	Shallots lb.	0	8	0	0		
Fennel bunch	0	8	0	0	Spinach bushel	2	0	3	0		
Garlic lb.	1	0	0	0	Tomatoes per doz.	2	0	4	0		
Herbs bunch	0	3	0	0	Turnips bunch	0	4	0	6		
Horseradish .. bundle	2	6	4	0	Vegetable Marrows dz.	0	9	1	0		

TRADE CATALOGUES RECEIVED.

F. & A. Dickson & Sons, 106, Eastgate Street, Chester.—*Catalogue of Select Dutch Flower Roots.*
William Paul, Waltham Cross, London, N.—*Select List of Hyacinths, Early Tulips, Crocuses, &c.*
James Carter & Co., 237, 238, and 261, High Holborn, London, W.C.—*Gardener's and Farmer's Vade Mecum, Part IV.—Dutch and Cape Bulbs.*

TO CORRESPONDENTS.

. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

LATE STRAWBERRIES (P. J. Newton).—The best late Strawberries are Frogmore Late Pine, Elton, and the new one called Dr. Hogg; the last is as late as either of the former, and has the flavour of British Queen. The Hop will grow in any common garden soil. It likes manure. There is no better evergreen covering for the roof of your fernery than Ivy, and it grows as fast as any evergreen climber.

ORCHARD-HOUSE TREES (C. P.).—As soon as the fruit is gathered, cut off the roots that have penetrated into the border, but not before.

VINE MILDEW (Rev. W. Gbbens).—Your Vine is attacked with the Oidium. Lose no time in dusting every leaf and bunch of fruit with flowers of sulphur. Even now it may be too late.

SYCAMORE LEAVES SPOTTED (K. K.).—The spots are not the effect of a fungus, but the puncture of an insect. We have examined them carefully by the microscope, and there is no fungoid appearance.

COMTE DE ZYANS STRAWBERRY.—We have received several letters asking where the above variety may be obtained, and we beg to refer the writers to our advertising columns.

MELONS (Mallow).—In addition to Bromham Hall, Trentham Hybrid, and Scarlet Gem, you might have Orion and Scarlet Perfection. If you can give no linings to your Melon-pit, it is not easy to give a regular heat to it by a dung-bed inside; but much may be done by using for the bottom of the bed dung hot and working, but not sweet or much decayed, and for the upper half dung well sweetened and wrought, and therefore more decomposed. The lower half will, therefore, naturally get rather dry. About half-way down the upper or sweet layer set some small drain-pipes standing upright above the soil, and as the heat lessens pour some warm water through them, which will thus gain access to the less reduced manure at the bottom, and cause it to ferment afresh. As to the soil sinking too far from the glass on such a bed, this can be guarded by training the plants over a simple trellis formed of wood, and wire, or even cord strained tight, training the Melon at first to one stem, and fastening that with such full play to the trellis that the sinking of the earth will do no harm. More anon.

STRAWBERRIES (A Buti to be Laughed at).—We never dig among our Strawberries. See last week's Journal. In your case we would trench the whole of your Strawberries down, and get young plants from a place where you know good crops are produced. That would be the quickest way for your securing a crop, for it is just possible, and likely even, that you have a barren lot that might with difficulty be rendered fruitful. Even then, with new plants, do not manure too highly.

ASTER DISEASED (Harry).—We can assign no reason for the Aster leaves being so affected, unless they have been watered overhead with strong manure, sewage, or other water that might suit the roots, but will not suit the foliage.

VIOLA CORNUTA (Devonensis).—Your specimen of *Viola cornuta* was so much crushed that it was impossible to tell whether it was the right variety or not. Send a specimen in a small box, I shall then be able to decide.—J. WILLS.

ONIONS AND SHALLOTS (Strasburg).—We have no knowledge of the prices that are given to growers, and these depend very much on the quality. Ascertain the name of some salesman in the metropolitan markets, and write to him. You may apply to Mr. John Black, of Covent Garden.

LABURNUM SEEDS (J. K. Currie).—They are decidedly poisonous, being violently purgative and emetic, and should never be left within the reach of children or cattle.

PROPAGATION OF EVERGREENS (Al Fresco).—Cryptomerias, Thujs, and Wellingtonias are propagated freely by cuttings. Now is the time to take them off. Put them in pans or pots of silver sand, and place them in a cool frame, shading them well. Let them remain all the winter, protected from frost, and in spring plunge them in a gentle hot-bed, when they will very soon strike root. We shall see about the Vines for you and send over cuttings. Can you send a sucker of the *Allanthes*? we should much like to see it. Judging from the leaf it will be a pretty thing. We have no recollection of ever seeing the former letter you allude to.

ON THE VARIATION AND CROSSING OF PELARGONIUMS.—I am exceedingly pleased with the remarks your correspondent, "C.," has made on the above subject. He has so well and so kindly handled the subject, that it is quite evident his only object is to bring out the opinions of others who may have noticed different facts which may help to elucidate this mysterious phenomenon. I shall again refer to the subject in a future paper; in the meantime I beg "C." to accept my thanks for the kind and able way in which he has taken my paper in hand, and shall be glad if he will favour me with his name and address.—J. WILLS.

EVERGREEN SHRUBS UNDER AN OAK TREE (Felixstowe).—The following would answer well:—*Berberis Darwini*, *repens*, and *aquifolium*. *Cotoneaster microphylla* would also do, likewise *Aucubas*, which, however, may grow too tall. *Skimmia japonica* would probably succeed; and no plants would be better than the *Periwinkles*, or *Vincas*, and small-leaved Ivies with plain and variegated leaves.

PEACHES FOR SPAN-ROOFED HOUSE (A Subscriber).—We would recommend you to get some of those new sorts raised by Mr. Rivers, which are infinitely superior in flavour to the old sorts. *Peaches*.—Early Albert, Early Silver, and Noblesse. *Nectarines*.—Balgowan and Victoria.

SILK ROSES (S. A.).—See "D." of Deal's paper in this Number.

REPOTTING AN ORCHID (C. M. Major).—This plant does all the better when the roots reach the sides of the pot, and unless your plants in tubs are in bad health, we advise you to take away as much soil as you can around the sides, and replace it with fresh. The best time to shift them is in April and May, or just before they begin to grow.

LILACS IN POTS (Ipswich).—After the leaves have fallen choose the most dwarf and best furnished plants having a number of flower-buds, which may be distinguished by their being larger and more prominent than the wood-buds. Take the plants up with good balls of earth, and place them in pots of sufficient size to contain them, but not larger than is necessary to admit a tolerable ball. A pot 13 or 15 inches in diameter will in most cases be sufficient. The pots should be efficiently drained, and the soil may be any moderately light rich loam. After potting give a good watering, and plunge the pots in coal ashes in a warm sheltered situation. The plants may be placed in your greenhouse shortly after Christmas, and if well exposed to the light they will flower in due season; but as you want them to bloom early, you may in the middle of November place them for a fortnight in a house with a temperature of from 45° to 50°, and then transfer them to a heat of 55°; if sprinkled overhead morning and evening, and properly supplied with water, they will come into fine bloom in about six weeks.

PROTECTING PEACHES FROM WASPS (M. S. B.).—The best safeguard against these is to cover the trees with hexagon netting. We are at a loss to know how you are to destroy or prevent woodlice eating the fruit without at the same time having recourse to means that would injure the trees and crop at this season; but under similar circumstances we have scooped out the inside of Potatoes, and placed them in the forks of the branches with the holes next the wall. The woodlice find their way into the hollows of the Potatoes, and may be picked out with a pointed stick and thrown into a pail of boiling water. This considerably thins their ranks and saves the fruit, as they are equally, if not more, partial to the Potatoes as to the Peaches.

RELAYING A LAWN (S. A.).—You should now dig up the tap-rooted and other perennial weeds, as Dandelion, Plantain, Cock's-foot Grass, Bents, and Ranunculus, but if you cannot do this without destroying the lawn, we should take up as many as we possibly could without making it unsightly. Be content with the largest, and in February have the ground trenched deeply without bringing up too much of the subsoil, and if the surface is uneven take advantage of the opportunity to level it. The ground should lie until the first dry weather in April, and should then be well raked or harrowed if possible, making it very fine, and freeing it of stones. As soon afterwards as there is a prospect of rain, sow whilst the ground is dry, lightly rake the seeds in, and roll well the same day, and do not roll again until the seedlings are fairly above ground. If you were to have the ground dug now you might sow the seeds up to the middle of September, omitting the Clovers, and it would become green before winter, but unless your situation is favourable, many of the better kinds of Grasses would perish in winter. No one would think of sowing Grass seeds in February. The beginning of April is sufficiently early. If your lawn consists of little else but weeds, then we would recommend you to dig up the whole in autumn, fork out the worst Grasses and tap-rooted weeds, and, after placing them in a heap, to sprinkle over them one bushel of salt and a like quantity of lime to every cartload. At the end of a year, if turned once or twice, they will, when mixed with an equal quantity of manure, form an excellent compost for dressing the lawn in the autumn after sowing. During the autumn the ground may be forked over, and all weeds picked out, and in December it may be trenched, in which condition it may remain until the first dry weather in March. It may then be levelled, and treated as above directed. Allow the Grass to grow until the end of June or beginning of July, afterwards cut it every three weeks until the middle of September, then give a top-dressing of rich compost, and roll well, as you will do after the Grass is first out.

STOPPING THE SHOOTS OF PEACH AND PLUM TREES (Agnes).—Stop those of the Peach at the third leaf, and those of the Plum at the fourth, and then at every leaf afterwards throughout the season, except the leaders, which are required to cover the wall, and should be trained in at their full length. The side shoots or laterals upon the Peach leaders are to be kept closely stopped to one joint. Upon the shoots of both trees you will find a number of short stubby shoots that do not grow more than 1 or at most 3 inches; these are to be left entire, but if they grow longer stop them.

CUTTING-BACK PELARGONIUMS (Idem).—Your plants which are now in full bloom may, when the bloom is going off, have a diminished supply of water, be kept dry for a fortnight or three weeks, and then be cut back. They will not flower so early as plants cut-in sooner, but they will, nevertheless, bloom well in June. The young plants, of which the wood is very soft and tender, should be rested for a time by keeping them dry at the roots, and should then be cut back. They will break strongly and make fine plants for summer bloom.

STOPPING GERANIUMS (Idem).—The cuttings put in now may be pinched back when they have struck to three joints, and when they have made three joints again they may have the point taken out, and this process may be repeated until the middle of April, when it should be discontinued. It does not interfere with the summer's bloom.

CERASTIUM TOMENTOSUM CHOKED WITH WEEDS (Idem).—We would advise your leaving the border of this *Cerastium* until autumn, and then taking up the best and freest from weeds (which from what you state, we think must be of a perennial nature), plant it with the ball adhering in some sheltered situation, and in light dry soil. This will set the border at liberty so that it may be cleared of the weeds, and in the end of March or early in April it may be replanted with the *Cerastium*. Put in small pieces of the latter in lines 6 inches apart, and 3 inches from plant to plant. It will cover the ground by the middle or end of June, but will not flower to any extent, though, as a silvery-foliated plant of low growth, it will be very ornamental.

VARIEGATED GERANIUMS NOT BLOOMING (Idem).—They do not usually flower so freely as the plain-leaved varieties, and the circumstance of yours having only a flower at the top, is due to there being no side shoots. You may remedy this by stopping the plants in spring so as to make them bushy when planted out. Flower of the Day is not a shy bloomer, but as regards its foliage it is inferior to most of the kinds now in cultivation.

SPOT ON ORCHIDS (Constant Reader).—The spot on the leaf of *Ipseis odoratum* is caused in the first instance by some parasite, which is becoming very general in collections. We are unable to suggest a remedy, and should feel obliged if those having knowledge of the evil would favour us with their experience. Williams's "Orchid Guide" would suit you; that and Appleby's "Orchid Manual" are the best. You can have the latter, post free, from our office for thirty-two postage stamps.

ROSE MILDEW (*An Original Subscriber*).—To rid your trees of this pest, dissolve Gishurst compound in the proportion of 2 ozs. to the gallon of water, and apply it with a syringe.

MELONS CRACKING (*W. H. B.*).—The cause of this is the rind becoming hard before the growth has been completed, and generally from a deficiency of water whilst the fruit is swelling; then the soil or atmosphere becoming moister the fruit swells, and the rind being incapable of resisting the internal pressure cracks to make way for the increased growth of the fruit. We know of no remedy except keeping the soil well supplied with water and the atmosphere moist, affording also slight shade from bright sun from the time when the fruit is fairly set and swelling until it has attained its full size and become netted over, when the supply of water should be lessened, and the atmosphere kept as dry as possible until the fruit is ripe. If you allow the soil and atmosphere to become so dry as to check the growth of the fruit, and after the rind has become hard give moisture, some kinds of Melons crack. Melons require as much water when swelling as a Cucumber, and when ripening a very dry atmosphere.

GLADIOLUS FAILURE (*J. G.*).—We conclude that your plants go off in that mysterious manner which has caused dismay to most cultivators of Gladioli, and is now familiarly known as "rust." Your mode of culture is good, and we do not know in what way it can be improved on.

HEATING SMALL GREENHOUSE (*T. L. M.*).—The sanitary piping will answer the purpose equally as well as a flue, and we should by all means recommend you to use one large nine-inch in preference to two smaller ones, as it will be less liable to foul and be easier cleaned.

VINES FOR A PIT (*A Two-years Subscriber*).—In your pit you may plant two Vines as you propose, and train one 2 feet from the bottom across

the lights, and the other half way between that and the top. You may make a border for them outside, and at one end of the pit only; and if you could so contrive it that the Vines could have an inside as well as an outside border all the better; plant them inside. For one Vine we would recommend Black Hamburgh, and for the other White Frontignan. Plant next March. It is not desirable, nor indeed prudent, to turn out the Vines, for we apprehend that you will not heat your pit more than will be sufficient to keep out frost, and that will not injure the Vines; but if you maintain a higher temperature than 40° it is well to turn them out, and in that case you must plant them outside.

NAMES OF FRUIT (*H. J. C.*).—No. 1, Royal George Peach; 2, Calande; 3, Grosse Mignonne. You should always send leaves with Peaches and Nectarines. The piece of a tree is Liquidambar styraciflua. The seedling Apple is worth keeping for the present. Send it again when ripe.

NAMES OF PLANTS (*Anglicus*).—Your Fern is Asplenium trichomanes incisum. Be good enough to inform us where you found the plant (*Shanbally*).—*Fraxinea ramosa*. (*D. Davis*).—1 and 2, Varieties of *Scolopendrium officinarum*; 3, *Phymatodes*, too imperfect; 4, *Nephrodium molle*; 5, *Campyloneuron lanceolatum* (?); 6, *Polystichum aculeatum*. (*R. T. M.*).—*Fraxinea sonchifolia*. (*Ardeaple*).—*Adiantum formosum*. (*Miss E. Jarret*).—The whole of your specimens were unnumbered—*Adiantum concinnum*, *A. macrophyllum*, *A. diaphanum*; others incomplete. (*R. H. A.*).—1, *Blachnum sp.* (?); 2, *Adiantum formosum*; 3, *A. cuneatum*; 4, *Pteris longifolia* var. *serrulata*; 5, *Polypodium vulgare* var. *canalicatum*; 6, *Lastrea decurrens*; 7, *Phymatodes vulgaris*; 8, *Doodia media*; 9, *Asplenium obtusum*; 10, *Pellaea adiantifolia*; 11, *Davallia canariensis*; 12, *Scolopendrium officinarum*; 13, *Asplenium bulbiferum*; 14, *Thamnopteris australis*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending August 25th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 19	29.829	29.769	77	54	60	58½	S.W.	.08	Fine; very fine; rain, fine; warm at night.
Mon. . . 20	29.871	29.868	76	54	62	59	W.	.02	Hazy and drizzly; very fine throughout.
Tues. . . 21	29.840	29.778	74	50	62	60	W.	.00	Hazy, very fine with hot sun; dry and fine.
Wed. . . 22	29.997	29.989	74	45	64	60	W.	.00	Overcast with uniform haze; very fine; cold at night.
Thurs. . . 23	30.081	29.958	76	55	65½	60½	S.E.	.06	Foggy; very fine; mild at night.
Fri. . . 24	30.089	29.972	71	48	64	60½	S.	.00	Slight fog; warm and drizzly; very fine.
Sat. . . 25	30.044	30.000	78	49	64	60	S.W.	.09	Slight haze; partially overcast and fine; very fine.
Mean	29.921	29.868	74.48	50.71	62.78	59.78	..	0.16	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

EXHIBITION POULTRY.

As unless the fowls possess the necessary merit and the qualifications that are likely to insure success, no amount of training or preparation will supply these, it is most important to impress on exhibitors that every bird intended for competition should undergo a strict examination. Painstaking tends only to develop good points, no amount of condition will supply a want or conceal a defect. The good points in question are so well known that it would seem more than unnecessary to dwell upon them, but even old exhibitors sometimes make mistakes which are so grave that a little mention by way of illustration may not be out of place. Thus, in Dorkings, well-defined five claws, and cock's spurs in their right places; in Polands, neither spikes nor gills; in Hamburgs, good white deaf ears; in Spanish, the cock's comb upright, the hen's drooping over, and perfectly white faces; in Game cocks perfectly straight breast bones; in Cochins, straight combs. Such remarks might be multiplied to almost any extent, but we have mentioned enough to show the strict examination that is necessary.

Although perfection may be impossible, all try to approach as nearly to it as may be, and it is often a matter of wonder, that among so many capital birds there should be so few that will meet all the requirements of their owners. Where the run is a good one and not overstocked, we are great advocates for allowing fowls their full liberty. They maintain a freshness of plumage, and a brightness of condition that have great charms in an exhibition pen. If four birds are wanted, twelve should be selected some time before they have to be shown. This guards against accidents, and gives a good choice at the last. Where two pens have to be shown in the same class, it is most important that every effort should be made to make the first pen perfect. Many prizes are lost by those who have good birds, and who, showing two pens in one class, give themselves worlds of trouble to make them even, which means two high commendations, whereas if the best birds of the two pens were put together, they would probably be among the prize-takers, perhaps the first. It is a mistake to hold antagonists

cheap, or in these matters to be satisfied with mediocrity. It is also well to recollect, that where the competition is very close, a mere trifle will decide—one of those things that are often declared to be of no importance whatever. It is a matter of great importance to exhibit fowls that agree. To ascertain this point they must be shut up together at times. Fowls will agree running about, that will fight to the death in confinement, and there is no prize for fighting birds; the beaten hen or pullet spoils the pen. A first-prize pen must not only be free from defects that disqualify, it must possess the characteristics that insure success: thus, no perfection of plumage or shape in a Dorking will compensate for lack of size; no stature, carriage, or condition in a Spanish cock will wipe out a red spot over the eye.

It is a mistake in the treatment of exhibition fowls to endeavour to do all in the last few days before competition. Half the food that is wasted in the last week in the vain endeavour to get weight by overfeeding, would, if given a little at a time and spread over some weeks, realise all that can be reasonably expected. Fat is not condition; overfeeding produces fat, and spoils plumage by making it soft and hollow. Where weight is required we advise a little increase in food for fourteen weeks before exhibition, and it is also well to vary it as much as possible. It is the real hard flesh that weighs, and which tells in a judge's hands. We know no food that does better than ground oats, slaked at times with milk, kitchen and table scraps, good barley, and plenty of green food. Damaged bread and ship-biscuit are excellent food, with now and then a meal of tallow-chandler's greaves.

We believe that almost all birds should be at liberty till they are wanted for showing. There are, however, exceptions; Spanish require to be in confinement several days before they are shown and they should be kept in semi-darkness. The less light they have the whiter their faces become. It was a tradition very many years ago that white peas made the faces white. Peas are given to Game cocks to harden feather. Some of the feather birds require to be washed; Hamburgs, Polands, and the like often need such assistance. The plumage is washed with a sponge dipped in cold water, with a little soap; it does not need much washing, and it is only that part which is in contact with the atmosphere that is dirty. After being washed the bird should be put in a basket with some soft oat straw,

and placed near a fire till dry. It must not be at liberty any more till after the show. We have known Poland exhibitors who for days before a competition confined all top-knots with Indian-rubber bands in order to keep them clean. Fowls should be sent to shows with clean legs. They should be liberally fed on soft food before they start, and should be packed in round baskets that will allow them to stand upright without injury or inconvenience to their combs. Many Spanish cocks have lost prizes by being put in baskets that would not allow the bird to stand up without pressing the comb down. The bottoms of all baskets should be covered with straw, and if it can be arranged, fowls should travel by night. On this latter point we are of opinion that where fowls are received during the whole day previous to an exhibition, those which are sent by a night train, and arrive early in the morning, are tenfold gainers by their few hours of extra confinement, owing to the care and comfort bestowed on their unpacking and feeding while there are few birds to attend to compared to the hurry of the evening, when all arrive *en masse*.

VULTURE HOCK IN COCHINS AND BRAHMAS.

HAVING a slight remembrance of some conversation with a friend about vulture-hocked Brahmas, I take the blame, if any exist, of answering the charge (which seems to have impressed itself so strongly upon the mind of your correspondent "JUSTITIA," "that the vulture hock was a sign of weakness in the leg-joint." "JUSTITIA" is troubled with a bad memory, or he would remember some other points in the statements he only partially announces. The reply I gave was not definite, and the point alluded to was a portion of a question put, to which I received no reply—viz., as "to whether vulture hocks, like a cat-hocked horse, were not a sign of, or resulting from, weakness in the leg-joints." As my words have been so far misconstrued, I will venture to give my own opinion upon the subject, and reply to "JUSTITIA" at the same time.

"JUSTITIA" alludes to the so-called challenge of "Y. B. A. Z." not being replied to. I considered the subject discussed and proved against the vulture hock, and that it was actually of recent introduction. I have not observed judges make alteration in the acknowledged standard of excellence in poultry; they could not do so. The question is not "an open one," it has been definitively settled: it, therefore, should not "unsettle breeders;" if it do so it is their own fault, as the consequences are known beforehand. I never met with breeders who admired vulture hocks. The lady alluded to truly says, "There must be a tendency to vulture hocks." This is a long way from actually being so. It is not one judge but all who exclaim against them. The Birmingham judges will, I have no doubt, act according to the acknowledged standard, and not merely to suit the few who happen to breed vulture hocks, and have thereby become attached to them. The rule to disallow them is old, to allow them would be new. If by agitation the rule could be set aside, then birds of both kinds might be shown, but for my part I do not see any good reason for doing so.

In conclusion, I beg to say I have a friend who has kept Brahmas from the earliest importation, and he quite agrees with the remarks made by the judge who replies to "JUSTITIA," that vulture hocks are a new introduction. As far as my own experience is concerned, I have always found vulture hocks most frequent amongst leggy birds, and whether you look at them sideways or in front, they appear knock-kneed and weak, and continually desiring to sit down.

It is well known that Dorkings have been crossed with Cochins to give them stamina, and birds have actually been exhibited with feather stubs still peeping through the scales of the legs—perhaps our friend "JUSTITIA" would have awarded such birds a high premium; I should not, because they are evidently a fresh importation, and should be treated only as a cross deserves.

I think it would be much more correct to make a fresh class for White Brahmas than for vulture-hocked, since most of last year's winning birds were without any pencilling in the neck hackles, and the preference was given invariably to size, and not to markings, as it should be according to rules.—F. C.

Why should one judge rule against all fanciers? Why do not the Brahma fanciers demand a poll? I do not quite agree with "CLEMENS," for I think exhibitors are most to blame, and while they are content to have their just complaints set down

as the grumbings of "disappointed exhibitors," how can they expect any redress? Though I am not at present a breeder of either Cochins or Brahmas, yet my opinion would lead me to advocate the whole vulture hock.—B. P. BRENT.

KINGSWOOD POULTRY SHOW.

My only association, until yesterday, August 22nd, with Kingswood, near Bristol, was the preaching of Whitefield to the colliers, some of whom came with brickbats and fool's cap to injure and insult the preacher, but stayed with tears on their blackened cheeks beseeching his forgiveness, and praying his further instruction. I shall now, in addition, connect Kingswood with the sight of a very pretty flower show, and a spirited first attempt at a poultry show. Kingswood is not an easy place to reach from Wiltshire, at least now that railways have made most places so easy of access, and we have come to think a few miles of hilly road terrible to face. I determined to go on to Bristol rather than stop at Keynsham, being afraid of not obtaining a conveyance there.

Entering Bristol station I noticed amid the smoke, dirt, and blackness, a bright little garden amid the great breadth of railway lines crossing and recrossing each other. It belonged to a pointsman, who had also decorated his black sentry-box with creepers. The garden was a perfect little gem, though only a few feet square. Pointing out this specimen of gardening under difficulties to a surgeon, my *vis-à-vis* in the carriage, I said, "That's a good sign." "Yes," he replied, "I never knew a drunkard who took pains with his garden." I found that Kingswood was four miles from Bristol, and "four such miles!" said the cabman. Once started, I threaded the narrowest and dirtiest of streets, the abodes of the lowest class—streets ripe and ready for the cholera—the adults begrimed, the little children like half-washed chimney-sweeps. Onwards and always upwards we go. I was early and quite alone on the road. After the thickly crowded streets are passed, blackened cottages succeed, everything has a collier look. Whitefield, a great orator, but no organiser, had left no enduring mark upon Kingswood. Not so quiet John Wesley; Wesleyan chapels and "Wesley Buildings" are there. Still upwards I climb and reach Kingswood village, which had put out its flags for a gala day. Small flags peep out at bedroom windows, larger ones float over our heads, little collier boys cheer me—no, my horse, as I pass along. Turning down a lane I at length get into the pure country, and stopping at a gate enter a park in which the Show is held. It proves to be the park of Mr. Budgett, the son, I believe, of the Mr. Budgett whose memoirs under the title "The Successful Merchant," have found their way into many homes. He was one who rose to wealth by industry, and better still, set a good example by his princely liberality and Christian kindness.

I arrived early, imagining that the Show would be opened at twelve o'clock, but it was not so. However, no one barred the way to "WILTSHIRE RECTORY;" he walks in, the attendant policemen doing him reverence, and no question, and not even a ticket asked for. Possibly the "WILTSHIRE RECTORY" was taken for some Canon, or even—who knows?—for the Dean of Bristol—some one so great that no ticket was required of him. The Judges are at their work, so I find a seat out in the open, and watch and enjoy the proceedings. I note the bustle and eager desire to have everything proper on the part of the officials. I listen to the marvellous Gloucestershire dialect of the workmen who are busy around me. I enjoy the pretty views, and half-dozing look-on at the bedding plants in the garden a little way off. At length one o'clock comes, and with it a band enters, then a second band, and the Show is open.

I walk straight to the poultry tent. It is of the "Classes open to all England," that I shall speak. It must be borne in mind that this was the first poultry show at Kingswood, and that the time of year is against showing birds. Indeed, I was surprised to see so many in good plumage. The great desire of the Committee was to bring together, by offering liberal prizes, at any rate a few good birds, and this wish was realised.

In Spanish Mr. Parsley, of Bristol, took the first prize with birds which were very superior. Mr. T. Bamfield, of Clifton, was second. In Dorkings and in Buff Cochins Miss Milward was first. Mr. Rodbard was first and second in Partridge Cochins, all his birds in this class being of great merit. The Game was the largest class. It is wonderful how all over England the Game fowl is beloved. Mr. Dupe, of Evercreech, was first with a pen of Brown Game, which were to my thinking the gems of the Show. Mr. Dupe took second with Duckwings—indeed he carried off all the honours: his three pens were a pleasure to look at as they stood side by side. Brahmas were more numerous than Cochins. The best pen was Mr. Boyle's. Rev. C. L. Cruwys had his usual place with Sebright Bantams, and Mr. Rodbard carried off the second Bantam prize with a pen of very good coloured Duckwings. The special prizes for the best cockerels of any variety, offered by Mr. Rodbard, fell to a good Spanish cockerel belonging to Mr. Parsley; the second to a bird belonging to Mr. Roberts, while Mr. Cornwall's Dorking was commended. The Rev. Mr. Hodson, of North Petherton, acted as poultry Judge.

While looking at the poultry a number of "Reformatory" boys passed through—very little boys they were. I was delighted to see

the little fellows at the Show; such a sight would not, I am sure, hinder their reformation.

Besides the poultry tent there was a large one for flowers; another of equal dimensions for cottagers' flowers, fruits, and vegetables; and a third in which were table decorations, principally flower-vases, in which the flowers were very tastefully arranged by fair fingers, though I fear I saw nothing very new.

At three o'clock I left the Show, and met visitors pouring in as fast as possible, admitted through Mr. Budgett's pretty garden, through which also I made my exit, and reached with difficulty my cab; for now the village street was crowded with carriages, and people on foot, and a pleasure fair was in its full glory.

One final word. I would strongly recommend the poultry Show to be in future held in Bristol; it would be easy of access, and certain to be large and well attended. Let my good friends at Kingswood and the fowl-loving Bristolians lay their managing heads together.—
WILTSHIRE RECTOR.

ALDBOROUGH (BOROUGHBRIDGE) POULTRY SHOW.

THE sixth annual Show was held in the park adjoining Aldborough Manor on Thursday the 17th inst. The day was rather unfavourable, rain falling very heavily during the forenoon, which prevented many visitors from attending. The entries were not numerous, but some good specimens were exhibited. The following are the awards:—

DORKINGS (Coloured).—First, O. A. Young, Driffield. Second, J. Bell, Thornton-le-Moor. **CHICKENS**.—First, T. Mason. Second, J. Bell.

SPANISH (Black).—First, O. A. Young. Second, M. & R. Gray, Borough-bridge.

GAME (White and Pile).—First, W. Calvert. Second, O. A. Young.

CHICKENS.—Prize, W. Calvert.

GAME (Black-breasted and other Reds).—Prize, W. Bearpark, Ainderby.

STEPPLE CHICKENS.—First, J. Bell. Second, Mrs. Ward.

COCHIN-CHINA.—Prize, J. Walker. **CHICKENS**.—Prize, J. G. Milner.

HAMBURGERS (Golden-spangled).—First, J. Topham, Boroughbridge.

Second, J. Walker. **CHICKENS**.—Prize, J. Gatenby.

HAMBURGERS (Golden-pencilled).—First, O. A. Young. Second, J. Walker.

HAMBURGERS (Silver-spangled).—First, O. A. Young. Second, J. Walker.

HAMBURGERS (Silver-pencilled).—First, J. Walker. Second, H. S. Hardcastle, Hunsingore.

POLANDS.—First, O. A. Young. Second, W. Lonsdale.

BRAMMA.—Prize, E. Graham. **CHICKENS**.—Prize, E. Graham.

BANTAMS (White).—Prize, O. A. Young. **CHICKENS**.—Prize, C. P. Andrews, Aldborough.

BANTAMS (Game).—First, O. A. Young. Second, M. & R. Gray.

ANY OTHER DISTINCT BREED.—Prize, O. A. Young.

FARMYARD CROSS.—First, S. Robson. Second, W. Bickerdike.

EXTRA STOCK.—Prize, Miss Norfolk.

TURKEYS.—Prize, I. Moorey, Mulwith. **POULTS**.—First, Mrs. Maynard.

Second, I. Moorey.

GESE.—First, O. A. Young. Second, I. Moorey. **GOSSINGS**.—First,

Hattersley & Wilson, Thirsk. Second, I. Moorey.

DUCKS (Aylesbury).—First, O. A. Young. Second, J. Cuthbertson.

DUCKS (Rouen).—First, E. Graham. Second, Miss Lawson. **DUCKINGS**.

—First, W. Bearpark. Second, Miss Lawson.

DUCKS (Any other variety).—First, J. G. Milner. Second, S. Robson.

GUINEA FOWLS.—First, O. A. Young. Second, I. Moorey.

PIGEONS.—**Croppers**.—Prize, Hattersley & Wilson. **Carriers**.—Prize, G.

Sadler. **Trumpeters**.—Prize, G. Sadler. **Jacobins**.—Prize, Lofthouse and

Eglin. **Fantails** (White).—Prize, Lofthouse & Eglin. **Tumblers**.—Prize,

G. Sadler. **Dragons**.—Prize, Hattersley & Wilson. **Barbs**.—Prize, Lofthouse

& Eglin. **Nuns**.—Prize, Hattersley & Wilson. **Turbits**.—Prize, G.

Sadler. **Any other variety**.—Prize, Hattersley & Wilson.

SELLING CLASS (Any variety).—Prize, G. Sadler.

RABBITS (Fancy).—First, O. A. Young. Second, Mrs. Slade.

The Judges were Mr. Jolly and Mr. Hunter.

DRIFHLINGTON AND ADWALTON POULTRY SHOW.

(From a Correspondent.)

THE eleventh annual Show of the Drighlington (near Leeds) Agricultural Society was held on Saturday the 18th inst. The show of poultry was scarcely equal to that at previous exhibitions. Except the class in which a cup was offered for the best pen of any breed the Show was well judged; but in this class the cup was given to a pen of Black Red Game which could not have won in its own class, being, to say the least, exceeding poor, while a magnificent pen of Gold Poland and an excellent pen of Spanish were passed over. The cock in the cup pen was in the worst condition and feather, and very much duck-footed; while the hen was more like a Dorking in shape, and altogether out of condition.

(From another Correspondent.)

THE prize for Black Spanish went to Mr. Thresh, whose birds were good, more especially the hen. The second-prize birds of Mr. Beldon's were of average merit. The Dorkings were not first-class. The Cochins were rather inferior to what we have seen. In Black-breasted and other Reds some good birds were shown. Mr. Noble showed excellent Black Game. In the Hamburg classes Mr. Beldon as usual showed good birds. His Silver and Golden Poland were also much admired.

In Game Bantams Mr. Noble, who took the first prize, had a good pen. In the class for any variety of Bantam Mr. Hutton was first with a very superior pen of Blacks. The second-prize pen was also good. The class for the best cock of any breed brought together some excellent birds, Mr. Beldon taking the first prize with a splendid Buff Cochin; indeed had this bird been shown in the cup class with a hen of equal merit, no doubt he would have taken the first position. The second prize went to a very good Black Red Game cock, the property of Mr. Noble. Mr. Thresh taking third with a very fair specimen of Black Spanish. For the best pen of poultry Mr. Fell took the cup with Black Red Game. The entry in this class was small, but the birds were of average merit. The classes for Pigeons were not well filled.

SPANISH.—First, J. Thresh, Bradford. Second, T. Greenwood, Dewsbury.

DORKING.—First and Second, H. Beldon, Goltstock, Bingley.

COCHIN.—First and Second, H. Beldon.

GAME (Black-breasted or other Red).—First, H. Bealand; (Black-breasted). Second, H. Beldon.

GAME (Duckwing or other Grey or Blue).—Prize, J. Fell & Sons, Adwalton (Duckwing).

GAME (White or Pile).—First, W. Walker, Gomersal. Second, G. Hartley (Piles).

GAME (Black or Brassy-winged).—First, G. Noble, Staincliffe (Black). Second, G. Hartley (Black).

HAMBURGH (Golden-spangled).—First and Second, H. Beldon.

HAMBURGH (Silver-spangled).—First and Second, H. Beldon.

HAMBURGH (Golden-pencilled).—First and Second, H. Beldon.

HAMBURGH (Silver-pencilled).—First and Second, H. Beldon.

POLISH.—First and Second, H. Beldon.

ANY DISTINCT BREED NOT MENTIONED IN THE ABOVE CLASSES.—First and Second, H. Beldon.

GAME BANTAMS.—First, G. Noble. Second, S. Schofield, Heckmondwike.

BANTAM (Any other variety).—First, E. Hutton, Pudsey. Second, S. Schofield.

GUINEA FOWLS.—Prize, H. Beldon.

GRESE (Any breed).—Prize, J. Ward, Drighlington.

DUCKS (Aylesbury).—First, J. Garforth, Drighlington. Second, B. Bentley, Birstal.

DUCKS (Rouen).—First and Second, J. Ward.

ANY BREED.—First, H. Beldon. Second, G. Noble. Third, J. Thresh (Black Spanish). Fourth, J. Fell & Sons. Fifth, J. Gott, Adwalton.

Sixth, H. Bealand.

A SILVER CUP GIVEN FOR THE BEST PEN OF POULTRY.—Cup, J. Fell and Sons.

PIGEONS.—**Pouter**.—Prize, J. Thompson, Bingley. **Carriers**.—Prize,

B. Peel, Birkenshaw (White). **Dragons**.—Prize, J. Thompson. **Antwerp**.

—Prize, E. Hutton. **Barbs**.—Prize, J. Thompson. **Owls**.—First, J. Thompson.

Second, J. Clayton, Drighlington. **Turbits**.—Prize, J. Thompson.

Archangels.—Prize, J. Thompson. **Any other variety**.—First, J. Thompson.

Second, J. Oxley (Baldpates).

The Judges were Stephen Barrett, Esq., Harewood, and J. W. Thompson, Esq., Southwram, Halifax.

HALFAX AND CALDER-VALE POULTRY SHOW.—AUGUST 25TH.

THE following are the awards made on this occasion:—

SPANISH.—First, Messrs. Burch & Boulter, Sheffield. Second, J. Thresh

Bradford. Third, H. Beldon, Bingley. **CHICKENS**.—First, J. Pinder

Clithero. Second and Third, H. Pickles, jun., Earby, near Skipton.

DORKINGS.—First, D. White, Driffield. Second, J. Pinder. Third, Hon.

H. W. Fitzwilliam, Wentworth Woodhouse, Rotherham. **CHICKENS**.—

First, Hon. H. W. Fitzwilliam. Second, Rev. J. F. Newton, Kirby-

Cleveland. Third, F. Key, Beverley. Commended, H. Savile, Ollerton.

Notts; H. Beldon.

COCHIN-CHINA (Cinnamon, Buff, or Lemon).—First, W. Harvey, Sheffield.

Second, T. Stretch, Ormskirk. Third, W. Wood, Wakeley, Sheffield.

CHICKENS.—First, C. Spencer, Attleborough, Norfolk. Second, C. W. Brierley,

Middleton. Third, J. Stott, Rochdale.

COCHIN-CHINA (Partridge).—First, C. W. Brierley. Second, T. Stretch.

Third, W. Gamon, Thornton-le-Moors. **CHICKENS**.—Prize, T. Stretch.

COCHIN-CHINA (Black, White, or any other variety).—**CHICKENS**.—Second,

G. Farnell, Queensbury. Third, Mrs. Dale, Scarborough.

BRAMAH POOTRA (Light).—Second, E. Pigeon, Lympstone near Exeter.

Third, F. Crook, Forest Hill, Kent. **CHICKENS**.—First, E. Pigeon. Second,

F. Crook. Third, H. Savile, Ollerton, Notts.

BRAMAH POOTRA (Dark).—First, G. H. Roberts, Penwortham, Preston.

Second and Third, J. H. Pickles. **CHICKENS**.—First, R. W. Boyle, Enay,

Co., Wicklow, Ireland. Second, G. H. Roberts. Third, J. H. Pickles.

Commended, J. H. Pickles.

SINGLE GAME COCK (Any colour).—Cup and First, C. W. Brierley. Second,

J. Fletcher, Stoneclough, Manchester. Third, J. Mason, Worcester.

SINGLE GAME HEN (Any colour).—First, R. Pashley, Workop. Second,

C. W. Brierley. Third, Hon. H. W. Fitzwilliam. Commended, T. West,

Ecclestone, St. Helens.

GAME (Black-breasted Red).—First, J. Firth, Dewsbury. Second, T.

Bottomley, Shelf. Third, W. Gamon. **CHICKENS**.—First, J. Hudson, Bradford.

Second, J. Firth. Third, G. Noble.

GAME (Brown-breasted and other Red).—First, J. Firth. Second, W.

Gamon. Third, J. Spencer, Queensbury. **CHICKENS**.—Cup and First, J.

Firth. Second, J. Wood. Third, H. Beldon.

GAME (Duckwing Grey and Blue).—First, J. Fletcher. Second, W.

Boyes. Third, W. Gamon. Commended, J. Firth. **CHICKENS**.—First, A.

Hodgson. Second, J. Firth. Third, W. Whiteley.

GAME (White and Pile).—First, W. Gamon. Second, W. Charter, Drif-

field. **CHICKENS**.—First and Second, R. Pashley. Third, G. Hartley.

GAME (Black or any other).—First, J. Fletcher. Second, G. Noble,

Dewsbury. Third, J. Ibbetson, Leeds. **CHICKENS**.—First, G. Hartley. Second,

J. Ibbetson.

SINGLE GAME COCKEREL (Any colour).—First, J. Fall, Leeds. Second, G. Noble, Third, T. Bottomley.

SINGLE GAME PULLET (Any colour).—First and Second, H. Crossley, Halifax. Third, G. Noble. Commended, R. Pashley.

POLANDS.—First and Second, H. Beldon. Third, S. Shaw. *Chickens*.—First, H. Beldon. Second, H. Bowker, Keighley. Third, J. Bowker.

HAMBURGERS (Golden-pencilled).—First, B. Hemingway, Shalf. Second, H. Beldon. Third, S. Smith. *Chickens*.—First, H. Beldon. Second, S. Smith. Third, F. Hollings, Bradford. Commended, W. Stansfield, jun., Todmorden.

HAMBURGERS (Silver-pencilled).—First and Second, H. Beldon. Third, J. E. Powers, Biggleswade Beds. *Chickens*.—First and Second, H. Beldon. Third, W. Bastow.

HAMBURGERS (Golden-spangled).—First, H. Beldon. Second, W. Throup, Shibden. Third, J. W. Cannan, Bradford. *Chickens*.—First, J. B. Hatfield near Manchester. Second, H. Beldon. Third, J. W. Cannan.

HAMBURGERS (Silver-spangled).—First and Second, A. K. Wood, Burnside, Kendal. Third, H. Beldon. Commended, A. Woods, Liverpool. *Chickens*.—Cup and First, H. Beldon. Second, J. Fielding, Manchester. Third, J. Walker, Knarborough.

HAMBURGERS (Black, White, or any other variety).—First, C. Sidgwick, Keighley. Second, H. Beldon. Third, S. Shaw. *Chickens*.—First and Second, C. Sidgwick. Third, S. Shaw.

ANY OTHER DISTINCT BREED, EXCEPT BANTAMS.—First, Hon. H. W. Fitzwilliam. Second and Third, National Poultry Company (La Fleche, Houdan). Commended, E. Pigeon; G. Viney, Halifax. *Chickens*.—First, Second, and Third, National Poultry Company.

SINGLE GAME BANTAM COCK.—First, J. Rhodes, Wakefield. Second, W. Bentley, Scholes, Cleckheaton. Third, G. Manning, Essex.

GAME BANTAMS.—First, G. Noble. Second, C. W. Brierley. Third, J. Walker.

BANTAMS (Gold or Silver-laced Sebright).—First and Second, F. L. Roy, Kelso. Third, S. & R. Ashton, Manchester. Commended, T. E. Harrison, Kendal.

BANTAMS (Any other variety).—First, S. Rhodes (Black). Second, W. Harvey (Japanese). Third, J. W. Cannan (Black). Commended, Enoch Hutton, Leeds; E. Cambridge, Bristol.

DUCKS (Aylesbury).—First and Third, Mrs. Seamons, Aylesbury. Second, E. Leech. Commended, E. Leech.

DUCKS (Rouen).—First and Third, S. Shaw, Stainland. Second, W. Bentley.

DUCKS (Any other variety).—First, H. Saville. Second, Sir H. Edwards, Bart., M.P., Halifax. Third, S. Shaw.

GESE.—First, E. Leech. Second, C. W. Brierley. Third, O. A. Young, Driffield. *Goings*.—First, W. Gamon. Second, Mrs. M. Seamons. Third, S. H. Stott.

TURKEYS.—First, S. H. Stott. Second, E. Leech, Rochdale. Third, Mrs. Dale. *Poulters*.—First, Mrs. Dale. Second, J. Clegg, Gatland. Third, E. Leech.

SELLING CLASS (Any Breed).—First, H. Beldon (Spanish). Second, T. Pomfret, Preston (Brahmas). Third, C. W. Brierley.

EXTRA STOCK (Poultry).—First, Sir H. Edwards, Bart., M.P., Halifax (Black Swans). Second, H. Saville (Dorking Pullets).

EXTRA STOCK (Rabbits).—Commended, Master H. Adams, Halifax (Angora); J. Fleming, Halifax (Spanish); W. Wright, Halifax (Spanish).

PIGEONS.

POWTERS OR CROPPERS.—First, R. Fulton, London. Second, W. Harvey, Sheffield. Highly Commended, R. Fulton; H. Beldon. *Hen*.—First, J. Thackray, York. Second, W. Harvey. Highly Commended, R. Fulton; E. E. M. Royds, Rochdale.

CARRIERS.—First and Cup, T. Colley, Sheffield. Second, M. Hedley, Surrey. Highly Commended, H. Hedley; E. E. M. Royds. *Hen*.—First, M. Hedley. Second, R. H. Artindale. Highly Commended, J. K. Robinson, Sunderland.

TUMBLERS (Almond).—First, R. Fulton. Second, F. Crossley, Eiland. *Tumblers* (Mottled).—First, E. E. M. Royds. Second, S. Shaw.

BALDS OR BRARDS.—First, J. Fielding, Rochdale. Second, E. E. M. Royds.

OWLS.—First, J. R. Robinson. Second, J. Fielding, jun.

TURBETS.—First, J. Wade, Ovenden. Second, J. Holden, Bradford. Highly Commended, J. Percival, London.

JACOBINS.—First, F. Key, Beverley. Second, S. Shaw.

FANTAILS.—First, J. Thackray. Second, H. Yardley. Highly Commended, H. Yardley; J. R. Robinson; S. Shaw.

BARBS.—First, J. Thackray. Second, J. Firth, jun., Halifax. Very Highly Commended, S. Shaw. Highly Commended, J. R. Robinson.

DRAGONS.—First, J. Percival. Second, F. Crossley. Highly Commended and Commended, H. Yardley.

TRUMPETERS.—First and Second, S. Shaw. Very Highly Commended, J. R. Robinson.

MAOPERS.—First, S. Shaw. Second, J. Thackray.

ANY OTHER BREED.—First, J. J. H. Stockall, Liverpool. Second, National Poultry Company.

SELLING CLASS.—First and Second, J. Fielding, jun. Highly Commended, F. Broemel, Kent.

EXTRA STOCK.—First, T. Colley. Second, J. Fielding.

JUDGES.—*Poultry*: Mr. R. Toebay, Fulwood, Preston; Mr. M. Hedley, Redhill, Surrey; and Mr. J. Douglas, Clumber. *Pigeons*: Mr. Harrison Weir, Peckham, London.

MOTTRAM POULTRY SHOW.

THE second annual Show of the Mottram Society took place on Monday the 20th of August. In number of entries and quality of stock the Exhibition was much better than its predecessor. There were upwards of two hundred pens of poultry and Pigeons. Among *Dorkings*, *Spanish*, and *Cochins* there were some excellent pens, especially those from Messrs. Burch & Boulter and Mrs. Sugden. *Game* were worthy of notice, though not well matched in leg; but among the young Reds some very good pens were shown. Gold and Silver Pencils were altogether bad, but the Spangles of both varieties were better, though the cockerels of the Silvers were not good; but among

the Golden were some of the best pens seen this season. The *Poland* and *Variety* classes were not good. The *Game Bantams* contained some perfect pens; but the Black and White Bantams were not good. Some very good Gold-laced Bantams won, but the Silvers were out of condition. *Rouen Ducks* were a most excellent class, scarcely any pen of which was left unnoticed. Some pretty little Teal were first in the *Variety* class, and *Domesticated Wild* were second. *Turkeys* and *Geese* were very large, and shown in excellent feather. In *Pigeons* the most noticeable pens were the Kites, Owls, and Barbs sent by Mr. Fielding, and the Almonds exhibited by Messrs. Royds. The extra prize for the best pen in the Show was awarded to a splendid pen of Golden-spangled chickens of this year, though very closely run by the pen of old Spanish from Messrs. Burch & Boulter and a capital pen of Grouse Cochins chickens from Mrs. Sugden.

DORKINGS (Any variety).—First, Messrs. S. & R. Ashton, Mottram. Second, W. Parr, Manchester. *Chickens*.—First, E. Leech, Rochdale. Second, Messrs. S. & R. Ashton.

SPANISH.—First, Messrs. Burch & Boulter, Sheffield. Second, T. Walker, jun., Denton, near Manchester. *Chickens*.—First and Second, Messrs. Burch & Boulter.

COCHINS (Any variety).—First, W. A. Taylor, Manchester. Second, J. Nelson, Manchester. Highly Commended, T. Hardicar, Manchester; H. B. Whittaker, Alkington. Commended, T. Maxwell, Salford. *Chickens*.—First and Second, The Hon. Mrs. Sugden, Cheshire. Highly Commended, W. Bamford; D. Bamford; T. Wrigley, jun. Commended, J. Thorneley, Hadfield.

GAME (Black-breasted and other Reds).—First, W. Gamon, Chester. Second, J. Jackson, Lancashire. Highly Commended, E. B. Sugden, Nantwich. Commended, J. Hilton, Booths Town Bridge. *Chickens*.—First, W. Gamon, Chester. Second, E. B. Sugden.

GAME (Any other variety).—First, W. Gamon. Second, S. and R. Ashton, Mottram. *Chickens*.—First, C. Shepley, Mottram. Second, J. Shepley, Mottram.

HAMBURGERS (Gold-pencilled).—First, T. Wrigley, jun., Middleton. Second, Messrs. S. & R. Ashton. *Chickens*.—First, W. Parr, Patricroft. Second, T. Wrigley. Highly Commended, G. Geast, Chadderton near Middleton. Commended, T. Wrigley, jun.

HAMBURGERS (Silver-pencilled).—First and Second, Messrs. S. & R. Ashton. *Chickens*.—First, W. Parr. Second, Messrs. S. & R. Ashton.

HAMBURGERS (Gold-spangled).—First, J. Buckley, Taunton, Ashton-under-Lyne. Second, Messrs. S. & R. Ashton. Highly Commended, J. Andrews, Ashton-under-Lyne. Commended, W. Parr. *Chickens*.—First and Premium Prize, Messrs. S. & R. Ashton. Second, A. Ludlam, Mottram. Highly Commended, J. Andrews, Ashton-under-Lyne.

HAMBURGERS (Silver-spangled).—First, Messrs. Ashton & Booth. Second, A. Woods, Sefton. Commended, A. Ludlam. *Chickens*.—First, J. Jackson, Bury. Second, T. Wrigley, jun. Highly Commended, A. Ludlam.

POLANDS (Any variety).—First, G. Heathcote, Macclesfield (Silver-spangled). Second, Messrs. S. & R. Ashton (Black). *Chickens*.—Prize, Messrs. S. & R. Ashton.

ANY OTHER VARIETY.—First, Messrs. Ashton & Booth. Second, Messrs. S. & R. Ashton (Houdans). *Chickens*.—First, W. A. Taylor. Second, Messrs. Ashton & Booth. Commended, T. Wrigley, jun.

BANTAMS (Game).—First, W. Travis, Ashton-under-Lyne. Second, T. Walker, jun., Denton. Highly Commended, E. Toder, Little Carlton, near Newark; J. Rhodes, Staleybridge; H. Shaw, Heyrod.

BANTAMS (Black or White).—First, Messrs. S. & R. Ashton. Second, G. Heathcote, Macclesfield.

BANTAMS (Any other variety).—First, T. C. Harrison, Hull. Second, Messrs. S. & R. Ashton (Silver-laced).

DUCKS (Aylesbury).—First, E. Leech, Rochdale. Second, Messrs. S. & R. Ashton.

DUCKS (Rouen).—First and Second, J. Nelson, Manchester. Highly Commended, E. Leech; W. Parr. Commended, T. Hardicar; S. H. Stott, Rochdale.

DUCKS (Any other variety).—First, T. C. Harrison. Second, T. Walker, jun.

GESE.—First, S. H. Stott. Second, E. Leech. Highly Commended, S. & R. Ashton.

TURKEYS.—First, E. Leech. Second, S. H. Stott.

SELLING CLASS.—First, Mrs. Bamford, Harpurley (Buff Cochins). Second, Messrs. Burch & Boulter (Spanish). Highly Commended, Messrs. Ashton & Booth. Commended, T. Wrigley, jun. (Gold-pencilled Hamburgs); Mrs. Bamford (Buff Cochins).

PIGEONS.

CARRIERS.—First, C. and E. Royds, Green Hill, Rochdale. Second, N. Tinker, Broadbottom.

POWTERS.—First, C. and E. Royds. Second, J. Ashton, Mottram.

DRAGONS.—First, J. Withinsaw, jun., Nantwich. Second, J. Lomax, Hollingworth.

JACOBINS.—First, T. Newell, Portland Street, Ashton. Second, J. Withinsaw, jun.

FANTAILS.—First, C. and E. Royds. Second, J. Withinsaw, jun.

NUNS.—First, H. B. Whittaker, Alkington. Second, S. and R. Ashton, Roe Cross.

TUMBLERS (Any variety).—First, J. Fielding, jun., Rochdale. Second, C. and E. Royds. Highly Commended, J. Fielding, jun. Commended, J. Lomax; N. Tinker.

OWLS.—First and Second, J. Fielding, jun. Highly Commended, C. and E. Royds. Commended, J. Rhodes, Staleybridge; T. Newell, Ashton.

TRUMPETERS.—First, C. and E. Royds. Second, S. and R. Ashton.

BARBS.—First, J. Fielding, jun. Second, N. Tinker. Highly Commended, T. Newell. Commended, J. Lomax.

TURBETS.—First, H. B. Whittaker. Second, J. Withinsaw. Commended, J. Midwood.

NEW OR ANY OTHER DISTINCT VARIETY.—First, J. Withinsaw. Second, S. W. Sidebottom, Mottram (Archangels).

SELLING CLASS.—First and Second, J. Fielding, jun. Highly Commended, C. and E. Royds; J. Withinsaw; H. B. Whittaker; S. and R. Ashton. Commended, S. and R. Ashton.

The Judges were Messrs. J. Dixon, Bradford, and E. Hutton, Pudsey.

WOODBIDGE POULTRY SHOW—A POULTRY PROTECTION SOCIETY WANTED.

Your correspondent "EGGERT" (page 132), has done well in making public through your columns the uncourteous, and, indeed, unjust, conduct of those who had the management of the Woodbridge Poultry Show last May. I am one who has suffered in the way he describes, not only receiving no account of birds sent, but failing to obtain a reply to letters of inquiry. I have received letters from others, too, who are in the same case.

I want to know whether gentlemen and amateurs who have no doubt been repeatedly imposed upon, if not positively robbed, as in my case, cannot form themselves into some sort of protection association, and by the payment of an annual subscription raise a fund for defraying the expenses of the process which "EGGERT" very delicately, though rightly, suggests as the best. I had personally good cause to complain of some very suspicious dealing on the part of a well-known name about two years ago, and the same person has, I find, been acting with other amateurs in a manner that is the reverse of straightforward. Will some of the readers of "our Journal" give me the benefit of their opinion on the subject of a Mutual Protection Society against thieves, unfair dealers, and poultry sharpers?—EGGERT.

As one of the Committee in connection with the above-named Show I beg to state that the Secretary has been applied to many times to call a meeting to have all matters settled up, and to know the reason the money-prizes and cups have not been sent to those who are justly entitled to them. In a financial point of view the Show was successful. The Secretary has had all monies paid over to him; if all the subscriptions are not in hand it is his fault; and now I leave you to think who the party is that ought to have paid up all demands upon the Society.—ONE OF THE COMMITTEE.

[If the Secretary neglects his duty the Committee themselves should take steps to satisfy those whose birds were either prizetakers or sold.—EDS.]

APPEARANCE OF LIGURIANS IN AN APIARY.

Will you kindly tell me what you think of the accompanying bees? They were taken from a stock hive which threw one swarm early this year. I only discovered their presence last night, not having had the most distant idea that any such bees were in my apiary, which consists of fifteen stocks; but I have examined them this morning, and find that there are great numbers in the hive referred to.

I quite believe there are no Ligurians within a distance of three or four miles, and I refer to those kept by the writer of the very interesting contributions to "our Journal" who signs himself "BLACKHEATH'AN," and whose apiary I should much like to see, and would, if he would honour me with a call, show him mine, and this stock which contains the favours for which I think I am indebted to him through the medium of his drones.—EDWD. FAIRBROTHER, 94, Wellington Street, Woolwich.

[The bees are well-marked Ligurians, and doubtless owe their existence to the fact of the young queen of the stock to which they belong having mated with an Italian drone, an event which we have known to occur before at quite a great distance. We doubt not that "A BLACKHEATH'AN" will be happy to exchange apian visits with you.]

WINTER PROTECTION FOR HIVES.

ONE of the disputed points among bee-keepers is as to the utility of bee-houses. On the one side it is asserted that these structures are simply nests for vermin, that they prevent the free circulation of air, and so contribute to produce that damp which is fatal to bees. On the other hand, there are experienced apianians who consider that houses are essential to the well-being of bees, that they shelter the hives from the scorching rays of the sun, and from the cold blasts of winter, and help the bees to maintain an equable temperature in their dwellings. Probably the truth may, as usual, be found in the *via media*. A roof of some kind is certainly advantageous, as it keeps hives dry, and shades them from the sun; and I think that an open shed, in the shape of a steep gable, to accommodate two hives, will probably be found the most desirable kind

of bee-house. A pair of light doors might be fixed with hinges to the two front posts of the shed, so as to form a screen in front of the hives during snow or severe weather.

Of course ordinary straw hives contained in a house of the above description will need some further protection from the weather, and it is upon this point that I am desirous of eliciting the opinion of your experienced apianian readers. A coating of cement has been recommended, and would certainly be an effectual preservative from cold, but the effect would not be pleasing, and the cement would add very considerably to the weight of the hives for manipulation. Straw covers, again, are liable to the objection that they harbour vermin.

The neatest and best straw cover I have ever seen is one which was recommended to me by a clever and successful Lancashire bee-master. I do not know whether it may be as novel to your readers, as it was to me, but here it is. Take an iron hoop of about the same diameter as the hive. Place it on the top of the hive, and having procured some long wheat straw, take a handful, and draw it through the hoop, until you have an equal length above and below the hoop; then double the straw back upon the hoop. Continue this process until you have surrounded the hive with a double covering of straw. Then take a hoop of larger diameter than that formerly used, and push it down from the top over the other hoop and the straw. Cut off the latter with a sharp knife just below the floor-board of the hive, cut out an opening in the cover opposite the mouth of the hive, and push the outer hoop as low down as you can without bringing it over this opening. Place an earthen bowl over the top of the hive and the straw, and you have then a cover which will defy the most severe weather, and, withal, will not disfigure your apiary. You can feed your bees at any time at the top of the hive by removing the bowl.—F., Westmoreland.

OUR LETTER BOX.

COCHINS' FACES SWOLLEN (Morley).—We know not the cause of the disease you mention, but should not attribute much importance to it, as Cochins are subject to very few diseases. Your treatment was right; but we believe in such cases castor oil is the best medicine. Either Spanish, Cochins, or Brahmas will suit you; Dorkings will not.

BUFF COCHINS' TAIL AND FLIGHT FEATHERS (Sug Cochins).—The black flight is more objectionable than the black tail; neither are to be desired.

BLACK FOWLS PRODUCING WHITE FEATHERS (Game Bantam).—If it is only after moulting and in your old birds that the spot appears, it is the effect of age. If it appears in chickens you must breed it out with a strain as good as yours evidently is. We advise the formation of two walks, one made up of the best of your own birds; the other, some of your perfect hens with the best cock you can obtain, and a pure black. By this means you will probably breed your cross; but if it should fall you will have your old strain unmixed to fall back upon. In birds of this class it is often necessary to renew colour or points by means of birds that have only these to recommend them. You are then obliged to breed in and breed out. It is a certain process, and not difficult; but it is slow.

BLACK SPANISH AND COCHINS (A. L. E.).—From one to two years old is the best age to breed fine strong chickens from.

SHOWING TURBITS AND CARRIERS (Morley).—Turbit Pigeons may be either "th-headed or turned-crowned"; but for exhibition the pairs should match. Likewise the Black and Dun Carriers if shown separately would be eligible for prizes, but if shown as a pair must both be of the same colour. I do not know the value of Rosalies.—B. P. BRENT.

DRAGON PIGEON ROTTEN-FEATHERED (H. L. T.).—I fear little can be done for your cock Dragon. Let him bathe freely; rub the bare places with sulphur ointment, reduce his condition, and give him pills of 1 grain calomel; but if the complaint is constitutional, I fear it will break out again.—B. P. BRENT.

TAMING A LINNET (Mrs. C.).—Your young pined Linnet may be tamed for exhibition by placing it in a cage with wooden back, top, and sides, and hanging the cage low where persons are constantly moving about. If, however, the bird knock himself about too much at first, paste a piece of thin paper over the front of the cage, and tear it away by degrees.—B. P. BRENT.

STRAIGHTENING COMBS (C. F. B.).—Leave the bees as they are until the end of April, when, in the middle of a fine day, they should be driven into an empty hive, and their own hive being conveyed in-doors, all the combs which are found to have been built irregularly must be cut out, straightened if necessary, and refitted into the frames, where they should be kept in their places by such temporary support as may be most convenient. Return the bees to their own hive when this is effected, and two days afterwards lift out the combs and remove all the temporary appliances by which these have been kept in their places.

SMOKING BEES (Gilbert Tweedle).—The honey will do excellently for feeding your weak swarms.

TAKING HONEY (Omaga).—Try driving the bees out of your super exactly in the manner described in page 59 of the fifth edition of "Bee-keeping for the Many." We should cut out the best of the combs from the partially-filled box, and put it on again for a few days to give the bees the opportunity of emptying the remaining combs. If they will not do so, take it off, bees and all, and leave it exposed in the midst of the apiary. In the evening, when all the honey is cleared, and the bees departed, convey it in-doors, tie it up, and put it away carefully until the spring.

WEEKLY CALENDAR.

Day of Month	Day of Week	SEPTEMBER 4-10, 1888.	Average Temperature near London.			Rain in last 30 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m.	h.	m.	h.	Days.	m.	s.
4	Tu	Arctotis decumbens.	70.5	46.4	58.4	17	19	af 5	40	af 6	25	1	5
5	W	Bouvardias.	69.8	47.2	58.5	16	20	5	37	6	26	1	24
6	Th	Balsams.	69.6	46.4	58.0	18	22	5	35	6	27	1	44
7	F	Beckia virgata.	69.8	47.5	58.6	18	23	5	33	6	28	2	4
8	S	Banksia verticillata.	69.0	47.7	58.3	17	25	5	30	6	29	2	25
9	Sun	15 SUNDAY AFTER TRINITY.	69.8	48.0	58.4	17	27	5	28	6	30	2	45
10	M	Bauera humilis.	69.8	45.5	57.4	19	28	5	26	6	1	3	6

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 69.7°; and its night temperature 46.9°. The greatest heat was 83°, on the 5th, 1848; and the lowest cold 28°, on the 7th, 1855. The greatest fall of rain was 1.27 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

HYACINTHS.



GAIN the time has come round when those who wish to secure good bulbs of this charming winter and spring-flowering plant should be on the alert, as the best

bulbs are usually those first imported.

The exhibitions of last spring clearly established two very important points—

1. That judging by the size and beauty of colouring of the specimens then exhibited, this plant had previously had but scant justice done to it as regards cultivation.

2. That notwithstanding this superior cultivation, many of the old favourites must stand aside to make way for the newer kinds, so greatly are the latter in advance in the important points of form, size, and colour.

Having devoted much time and thought to the cultivation of this plant during the last seven years, and having taken the largest share of the premier prizes at the London exhibitions, I may, perhaps, be pardoned for venturing to offer a few brief remarks on their cultivation, and the varieties best suited for various purposes.

First, as to growing for exhibition. He who intends to exhibit must make up his mind to buy the best bulbs that can be obtained, for our present exhibitors do this, and unless this be done there is little chance of standing in the foremost rank. The next step is to pot the bulbs early, that they may lose nothing of their strength by being exposed and overried in the various seed-shops to which the growers from Holland usually consign them about this season of the year. In our large thoroughfares the temptation to expose the finest bulbs is so great that I believe they suffer more from this cause than the sorts of ordinary merit. Pot them, say late in October, one bulb in each pot of the size known as No. 32, two-thirds of the bulb only beneath the soil, placing an inverted thumb-pot over the crown of the bulb before plunging, to keep the ashes or whatever may be used to plunge them in from soiling the bulb. The soil may be composed of two parts turfy loam, chopped fine but not sifted, one-third well-decayed cowdung, and one-third silver or river sand. When potted place them on the hard level ground under a north wall or fence out of doors if convenient, packing the spaces between the pots tightly with cinder ashes or cocoa-nut fibre. This done, give them one good soaking of water, and cover the tops 6 inches deep with the same plunging material. All is now safe till the month of January, when they should be uncovered and removed to cold pits, covering the glass for a few days with a mat that the rising crowns may be gradually inured to the light, and covering by night with double mats or straw to

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insure their protection from frost. During the day, unless very frosty, air should be given plentifully to prevent too rapid a development of the leaves, and water should also be given abundantly. Watering with weak liquid manure from the time the leaves begin to grow until the flowers arrive at maturity proves an excellent stimulant. If required to bloom in March, the bulbs should be removed from the pits in February to a house where there is a command of heat, and placed as closely as possible to the glass, giving plenty of air, and using only such an amount of heat as may be required to bring them to perfection at a given date. No definite instructions on these points can be given. The judgment of the cultivator, having due regard to the state of the weather, must determine the exact amount of air and heat. When the flower-spikes are about 3 inches long, prepare for tying. Small rods, made of iron wire, bent as annexed, are my favourite plan, as the roots, and consequently the flowers, are liable to be injured by placing a stick sufficiently close to the bulb to secure the spike in an upright position. So soon as the first flowers expand a slight shade should be drawn over the glass for a few hours in the middle of sunny days, that the early flowers may be preserved from fading, and the colour of the spike kept uniform throughout.

The kinds I recommend for exhibition are—

SINGLE RED.

Cavaignac.—Beautiful pink, with deep rose stripes; very fine bells and spike.

Gariibaldi.—Shining dark reddish crimson; good bells, and well-formed spike. Very effective.

Macaulay.—Rose colour, with dark red stripes; close and handsome spike.

Princess Clothilde.—Rose colour, striped with carmine; good bells, and handsome spike.

Solfaterre.—Fine orange red, with light centre, changing to deep red. Very distinct and fine.

Von Schiller.—Salmon pink, with crimson stripes; large and exquisitely-arranged spike.

SINGLE WHITE.

Alba Maxima.—Pure white; splendid bells, and extra large spike.

Grandeur à Merveille.—Very pale blush; large bells; broad and handsome spike.

Mirandoline.—Pure white; closely-arranged bells; long spike.

Mont Blanc.—Snow white; splendid bells; long spike.

Snowball.—Beautiful pure white; extra large and handsome bells; close spike.

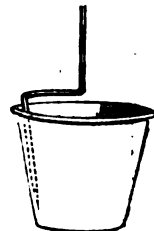
SINGLE BLUE.

Charles Dickens.—Light blue and lilac shaded; extra fine spike.

Feruck Khan.—Very dark, almost black; splendid bells, and long spike.

Grand Lilas.—Beautiful pale porcelain; large and handsome spike.

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King of the Blues.—Rich dark blue; large spike, exquisitely arranged.

Marie.—Very dark shaded blue; large bells; close and handsome spike.

General Huvelot.—Blackish purple; large bells, and good spike.

Haydn.—Lilac mauve; large and well-formed spike. Very distinct.

SINGLE YELLOW.

Ida.—Beautiful clear primrose; large bells and spike. The best in its class.

DOUBLE RED.

Koh-i-noor.—Pale salmon red; very long and perfect-shaped spike.

Lord Wellington.—Delicate pale rose; extra large bells, and handsome spike.

DOUBLE BLUE.

Garrick.—Lilac blue, shaded; large bells, and well-formed spike.

Laurens Koeter.—Dark blue; good bells; very close and handsome spike.

Van Speyk.—Light blue, shaded with lilac; largest bells, and close spike.

With regard to Hyacinths grown for the purposes of general decoration, the culture must differ nothing from the above, except that less time, attention, and labour are sufficient to secure the ends in view. Under this head we recommend placing three bulbs of a kind in a pot; or even groups of the cheaper kinds in pans and ornamental vases produce an effect at once massive and beautiful. A mass of red, a mass of white, a mass of blue; also red or blue centres, bordered with white, &c., are very desirable, in the latter cases taking care to secure for the centres kinds which are of a shade taller growth, and of colours that are well contrasted. For masses of red take Robert Steiger, Norma, Madame Hodgson, and Amy; for masses of blue, Baron Von Tuyl, Charles Dickens, Mimosa, and William I.; for masses of white, Grand Vainqueur, Grandeur à Merveille, Queen of the Netherlands, and Tubiflora. Mimosa (dark blue), bordered with Diebitz Sabalkansky (red); Queen Victoria (white), bordered with Mars (red); Victoria Alexandrina (red), bordered with Madame Talleyrand (white); Bloksberg (double blue), bordered with Lord Wellington (double blue), and the like form beautiful masses.

As to the period of blooming, even Hyacinths may be had in bloom for six months, from November to April, if that is deemed desirable. The earliest kind is the beautiful little Roman Hyacinth, the best of all for early forcing, and which should be grown in the most limited collection of plants for forcing; the flowers are snowy white, so clean, so beautiful, and so sweet. Next in order come L'Ami du Cœur, Herstelde Vrede, and Norma (reds); L'Ami du Cœur, Charles Dickens, and Prince Albert (blues); Groot Vorst (bluish).

The Roman Hyacinths should be potted in August or September to bloom in November, and the early kinds of other Hyacinths in September to bloom in December. Whatever the amount of heat given, which will depend on the time at which they will be wanted in flower, a regular temperature should be maintained, and plenty of water given. I often think that even practical men are scarcely alive to the fact—or at least do not regulate their practice by it—that the only nutriment plants imbibed through the root is water. The forcing of Hyacinths has been long practised, and is generally well understood: not so the process of retarding; but it is as easy to have Hyacinths in bloom in April, and even in May, as in November and December, only the process of cultivation is different. Those who saw the groups of Lily of the Valley exhibited at the International Horticultural Show last spring will not be disposed to question this, for these plants bloom naturally at the same season. Hyacinths for late blooming should be kept in a cold place from the time the roots are imported till the first week in December, then potted in rather dry soil, plunged, and covered up under a north wall, as previously recommended, but not watered. It is by the agency of cold and drought that we retard, as by heat and moisture we accelerate the period of blooming, and the practical man need not be cautioned against freezing and withering on the one hand, or burning and rotting on the other. Hyacinths potted in December to bloom in April and May should be kept plunged as long as possible; it will be well, however, to examine them occasionally from the middle of January onwards, as they must be uncovered and removed to a north glass as soon as the growth becomes very active. When in their

new situation all possible air should be given; in fact, they should be brought as nearly as possible to their out-of-door condition, merely using the lights of the pit to protect them from frost and rough weather. A regular but moderate supply of water should be given, and shading must be resorted to if there is much sun. By this means not only is the season of flowering retarded but also considerably prolonged.

All the kinds recommended for exhibition are also good for general decoration; but as some of them are unnecessarily expensive for the latter purpose, I shall offer here a fresh list of less costly kinds.

Single Red.—Amy, Gigantea, Madame Hodgson, Mille Rachel, Norma, Robert Steiger, Victoria Alexandrina.

Single White.—Grand Vainqueur, Grandeur à Merveille, Madame Talleyrand, Queen of the Netherlands, Seraphine, Tubiflora, Voltaire.

Single Blue.—Baron Von Tuyl, Charles Dickens, Emicus, Leonidas, Mimosa, Prince Albert.

Single Yellow.—Alida Jacoba, Heroine, William III.

There are, perhaps, no in-door flowers more easily managed than Hyacinths in glasses, and there is no reason why they should not be used to adorn the parlour of the cottage as well as the hall and drawing-room of the mansion. Place them in the glasses late in October or early in November, the roots in the first instance not quite in contact with the water. Rain or pond-water should be used, and only changed should it become offensive. For the first month they are best placed where excluded from the light, to which they should afterwards be gradually inured. As the water decreases by evaporation and the feeding of the plant, the glasses should be filled up. If some be placed in a warm room and others in a cool one, there will be a difference of days or weeks in the period of flowering according to the difference of temperature. Then, as before, care must be taken to protect them from frost, which, if hot likely to be severe enough to injure the plants, may break the glasses. Supports must be used for the leaves and flowers, and these may be purchased for a small sum at the seed-shops. It is well to remember that Hyacinths in rooms should, during the growing and flowering season, be placed where they obtain as much light and air as possible. The best kinds for this purpose are:—

SINGLE RED.

Emmeline.—Rose colour; fine bells and spike.

La Dame du Lac.—Pale rose colour, with deep rose stripe; large bells, and well-formed spike.

Madame Hodgson.—Fine pale pink, close and good spike.

Norma.—Beautiful waxy pink; very large bells. Extra fine and early.

Ornement de la Nature.—Beautiful clear waxy bluish, with pink stripes; fine bells and spike.

Robert Steiger.—Medium red; fine bells and spike.

Sultan's Favourite.—Bluish, with rose stripes; lovely colour.

SINGLE WHITE.

Alba Maxima.—Pure white; large and effective spike.

Grandeur à Merveille.—Very pale bluish; large bells; toned and handsome spike.

Kroon Princess.—Pure white; compact and good.

Madame Van der Hoop.—Purest white, and finest bells; good spike.

Queen of the Whites.—Snowy white; extra fine bells, and good spike.

Seraphine.—Very pale creamy white; good bells, and long spike.

SINGLE BLUE.

Baron Von Tuyl.—Bright dark blue; very long and handsome spike.

Canning.—Lilac, blue shaded; good spike.

Charles Dickens.—Light blue, and lilac shaded; extra fine spike.

Couronne de Celle.—Beautiful azure blue; fine bells, and good spike.

Mimosa.—Dark purple; fine and distinct.

William I.—Dark purple; good spike.

SINGLE YELLOW.

Anna Carolina.—Clear yellow; large bells, and good spike.

DOUBLE RED.

Groot Vorst.—Delicate bluish; fine spike. Early.

Lord Wellington.—Delicate pale rose; extra large bells, and good spike.

DOUBLE WHITE.

Prince of Waterloo.—Pure white; large and handsome spike.

DOUBLE BLUSH.

Blushers.—Beautiful porcelain; large bells, and good spike.

This brings us to the last part of our subject—namely, Hyacinths for beds and borders. October and November are also the best months for planting out of doors. A light sandy loam, with a plentiful admixture of decayed cowdung, is the soil in which they appear generally to succeed best, but they thrive in almost any common garden soil. Place the crowns of the bulb 3 or 4 inches below the surface, adding to the top 2 or 3 inches of coese-nut fibre or decayed manure as a protection against frost. The latter may be removed, or partly removed, if it be ascertained that the leaves and spikes experience any difficulty in pushing through. By the use of these and other spring-flowering bulbs and plants the garden may be made as gay in March and April as at any season of the year, and they may be readily removed to make way for the "bedding" plants used for summer and autumn decoration. The best kinds for bedding on account of their hardiness and cheapness are—

Single Red.—Amy, Herstede Vrede, L'Ami du Cœur, L'Hennauer de Bessenheim, Madame Hodgson.

Single White and Yellow.—Grand Vainqueur, Madame Tura, Veltre, Heroine.

Single Blue.—Baron Von Tuyl, Charles Dickens, Emiens, L'Ami du Cœur, Ornéades.

Double.—Anna Maria, white; La Virginité, white; Bouquet Royal, rose; Groot Vorst, bluish; Panorama, red; Waterloo, red; Koning Aalburg, porcelain blue; Lord Wellington, blue; Prince of Saxe Weimar, blue.—WILLIAM PAUL, *Paul's Nursery, Waltham Cross, N.*

GRAFTING ROSES.

I regret that I have not had an earlier opportunity of supplying the information requested by "M. D." respecting my mode of grafting Roses. The process, as I stated in my former letter, is so very simple that I thought a minute description of it unnecessary, presuming at the time I wrote that most, if not all, of your readers who would feel interested in the invention would understand grafting as it is generally practised, which would at once enable them to comprehend it. The only difference between my system and others is in the binding material, which, being perfectly air-tight, requires no covering. As the various modes of grafting are fully explained in the "Cottage Gardeners' Dictionary" and other works on the subject, it would be occupying space unnecessarily to give a description of them here; I will, therefore, confine myself to the questions asked by "M. D."

First, then, the Manetti stocks were taken out of the ground previously to being grafted, their roots trimmed, and their heads cut back. I also gave them a good washing before taking them in-doors in order to keep all clean and tidy, my better half being a little particular in this respect. The indian-rubber bands used were such as are commonly sold for the purpose of holding papers together, and may be had at any stationer's; the length and breadth depend altogether on the size of the stocks; those I grafted being small, I found a ring a little over 2½ inches in diameter and not quite half an inch broad in the band sufficient for two. The operation is performed in this way:—Take the stock in your left hand, and place the thumb, with one end of the band under it, on the lower end of the scion when you have it properly fitted, pressing it firmly to keep it in its place; then, with the band considerably stretched, bind upwards to half an inch or so on the graft and return, taking care in binding backwards to close every opening in order to prevent the admission of air, which, on account of the elastic nature of the material employed, can be done most effectually. At the bottom—that is, a little below the junction, fasten the end with a piece of soft thread or band to prevent it springing back. This finishes the operation.

In planting-out, it is not necessary to slacken or remove the binding: the band or thread being under the surface of the soil will soon rot, and set the indian-rubber free, which will unwind itself or expand as the stock increases in size.

Many amateur rosarians—fair ones especially—have been deterred hitherto from propagating their favourites by grafting simply on account of the operation being rendered both difficult and disagreeable by the materials required to be used in the process; these obstacles I think I have succeeded in removing, and have shown a way by which the operation can be both easily and pleasantly performed. I may be a little too sanguine, perhaps, but I have an idea that, for the smaller

kinds of plants at least, the day is not far distant when manure and clay for grafting purposes will be looked upon as things of the past. Should the discovery be considered of sufficient importance, I would be happy to forward to the office of this Journal a plant from which the indian-rubber has not been removed; it would, perhaps, be more satisfactory than anything I have written on the subject.

The stock to which I have alluded in former letters is the old Maiden's Blush. I would recommend amateurs to give it a trial; it produces fine growth, is very hardy, and gives no trouble whatever with suckers. With regard to its propagation, as a stock, I regret to say that I am not in a position to impart much information; I have been in expectation for some time past of leaving this place, and have not paid that attention to it that I would otherwise have done. It is just possible that it might not succeed so well in other localities, but in these days, when Rose stocks are occupying a good deal of attention, it is, certainly, I think, worth trying.—LOCH NASS.

NOTES ON THE FORMATION OF NEW GROUNDS AND LAWNS.

WHATEVER differences of opinion may exist as to the superiority of continental and British gardening of an ornamental character, there appears to be only one conclusion with respect to the position in which we stand as possessing one of the most important features of embellishment in a higher degree, namely, excellence than our neighbours across the water, that feature being a well-kept lawn. Whether we have to attribute this to climate, or to good management, or to both combined, it is unnecessary here to inquire, suffice it to say that the general superiority of English over continental turf admits of no dispute. In isolated instances, however, the case may be reversed, and a few notes will, perhaps, be of service to "An Inquirer" who asks for instruction how to renovate a lawn which is not so satisfactory as he could wish; at the same time I disclaim all intention of attacking the systems of other writers in this Journal who advocate means more costly than can be adopted by those having an unpromising piece of ground to convert into a green sward, and whose means are limited. Such cases are of everyday occurrence, and though the adoption of a cheaper way of obtaining a good velvet turf may not always be attended with such good results as a more expensive and careful mode of going to work, yet it often serves the end in view, and leaves a good balance in the expenditure that may be applied to other purposes. Good useful turf is always acceptable, and in all cases it is desirable to obtain it at a reasonable cost. As some of the best lawns in the country had only a very conservative beginning, let us not despise them because the constituent parts of their herbage were not allotted in the exact proportions prescribed by some who assume to be authorities in such matters, the sward having merely arrived at its present good condition in consequence of being kept duly mown and rolled. Nature, an assistant to whom, alas, we are not sufficiently grateful, doing the rest.

Let us now see in what way an unpromising piece of land can be made to assume the dressed character of a lawn at the least possible expense. Assuming, therefore, that a plot of ground surrounding a residence which has only recently passed out of the builder's hands has to be operated upon (and there are many such plots), a cursory survey will at once show that its surface—originally grass, perhaps—is now as free of weeds, places as the footpaths in the London parks, while in other tufts of grass and weeds make an effort to conceal with their foliage the many stones, brickbats, pieces of wood, and other rubbish scattered over the ground. Here and there a large bare spot will be seen on which mortar has, perhaps, been made, and which with other parts of the ground is intended to be laid out in some ornamental or useful way. Notwithstanding all this no unnecessary expenditure has to be incurred in leveling out the ground, and when such a plot falls into the hands of the operator it has frequently to be put in order, regardless of the time of year, whether favourable or not for such work. Fortunately, however, most kinds of ground work can be executed at all seasons, but planting shrubs and laying turf cannot always be carried out so successfully, yet as they are expected to be done let us see what are the best means to adopt in such a case.

In the first place I shall suppose that a plan has been devised upon, and if it is of an ornamental character most likely there will be some walks and beds, perhaps a shrubbery border, a lawn

for single specimens, or other features. All these being determined, and the position of each roughly marked out before the spade is put in, it will be necessary to consider how the materials on the spot can be worked in to the best advantage. The best soil must be appropriated to the beds and borders, or for specimen trees, while all rough useless stones, brick-bats, pieces of dried mortar, chippings of slate, &c., may be used in making the walks, and the remainder levelled for the turf; and as it often happens that such work has to be done at a season unfavourable for obtaining a good lawn from seed, or without waiting so long for it, and there may be some difficulty in procuring the necessary quantity of old turf to lay down, some homely expedient has to be resorted to in order to obtain the requisite sward. Some of the means which I have been at times obliged to adopt are homely enough, and likely to be derided by the advocates of exact mixtures of certain grass seeds, very careful preparation of the ground, and other niceties in the operation which make a lawn a costly affair. Assuming, therefore, that it is midwinter when such work is in hand, and that there is a little turfy grass on the spot, this, however long, coarse, and neglected, I would take care of, and turn to account. If it be long and ragged at top, mow it first and then pare it up, and pick out docks, dandelions, and other very coarse weeds; lay the patches so obtained in a heap on some spot not likely to be interfered with until the last, and the stones and other rubbish being placed contiguous to where the walks are to be, let the surface soil be removed from the intended walk to whatever depth will receive all the rubbish which is to be disposed of, and lay such soil on some place where wanted, so contriving the work as to have as little of the materials as possible to move twice. Some forethought, with a knowledge of what is ultimately intended, will enable the operator to do this with less difficulty than is imagined, by beginning at the right place, and avoiding as far as possible confusion. No directions can be of much service in assisting the beginner in this matter, as the requirements of places differ so much, and without being on the spot it is impossible to say where the first barrowful of material should be taken to. Generally, however, it is customary to trench or dig plots intended for beds, borders, or shrubberies, and such useless material as may be found there may be removed to where a less valuable soil is wanted, and the stones to the site of the intended walks, but do not by any means remove all the stones from such borders, for be assured they are of great use where they are. The removal, however, of any portion of the material will necessitate additions being made at some places, and to replace it the good soil from the walks may be made available at once. Perhaps some beds or borders want raising into mound-like forms; if so, this may be done at once, and, if necessary, the transplanting of any large shrub or tree may be accomplished before the rest of the ground work, which I expect to be laying down in grass, is proceeded with.

Progress thus far having been made, and the sites for all beds and borders prepared with the necessary materials, then arrange about the walks, the site for which is supposed to have been excavated some 6 or 8 inches or more as material to fill it up may happen to be plentiful or otherwise, but I would not advise less than 6 inches, although I have as a matter of necessity made many walks only half that thickness. Here it is necessary to remark that if the subsoil be wet, a drain may be necessary—in fact it ought to have been mentioned at the commencement of this article, that draining the ground in a proper manner ought to be the first of all operations if it is required; but expecting that to have been already done, I may say that a drain along the centre of each walk will be of service, supposing the substratum to be a sound hard clay. Let the part excavated for the walk be made smooth at the bottom and slightly falling to the centre, where a drain a foot or more deep may be cut, and ordinary drain-tiles leading to some suitable outlet put in. Let the top of the pipes be carefully covered over with stones, as well as the whole of the excavated portion, taking care that no large ones project upwards so as to be within 1 or 2 inches of the surface of the walk. In filling in this foundation reserve all the finer materials to go on the top, and if such cannot be had, a little more care in placing them will much assist in giving the bed of the walk a finish, which may be still farther improved by breaking with a hammer all stones that show too large at top, and finally a good rolling or ramming down will be required before the finer material is put on. This, however, is a subject more especially appertaining to walk-making, while here we are only advising how the materials at hand can be best disposed of.

The next duty is to arrange for the edgings of the walks, and assuming these to be grass, some old turf ought to be obtained to lay the edge with, even if only as much as to cover a space of 6 inches wide; try and obtain that, although a foot in width is not too much. Level the edge for this turf, and be sure to sink it deep enough, so that in the after-levelling of the ground the upper edge of the turf may be no higher, but even a trifle lower, than the surface of the ground to be operated on. Do not depend on forcing the turf edging down by beating it as has often enough been attempted, such beating only results in its springing up again after heavy rain or frosts, but lay it rather under the flush level as it is called, and when the whole becomes of one piece it will not stand up as it often does when laid down by unpractised hands. The edgings of beds and borders may be treated in like manner, taking care in laying such turf both here and by the sides of walks that a little of it overlap the bed or walk, so as to allow of its being cut more exactly when fairly established. To make this plain I shall suppose a walk 10 feet wide to be wanted, therefore in laying down the turf let the two edgings be 2 inches less than this width apart, so that when the turf shall have fairly taken hold of the soil a clean-cut edge may be made by taking off 1 inch from each side; the same plan may be adopted in the beds or borders, or wherever there is a margin of grass. Attention to this is more important in the dry spring months if the turf be laid at such a time, as it is more likely to shrink at that period than in midwinter, and, consequently, will not extend to the place wanted to cut to.

Presuming the work above mentioned to be done, the next operation is that of preparing the remainder of the ground for plain turf. As it is desirable to do the work with as much economy as possible, it is expected that a few sorts not mentioned in the usual lists of mixtures for lawn grasses may be excused (for, in fact, they or some other will be sure to force themselves among those in the more select list), and as we have advised whatever semblance there might be of turf on the ground before operations commenced to be saved, it may now be brought into use. First of all, let the ground be dug over and properly levelled, taking care as far as possible to have the surface soil as nearly of one kind as may be, and although stones in moderate quantity are no detriment to the shrubbery border, or even the flower-beds, all above the size of a marble ought to be removed from the surface as the work proceeds. Raking, however, need not be adopted unless the soil be a sandy one and it is easily done.

A moderately level surface having been obtained by using all the material at hand, and contriving to make it do, the next proceeding is to obtain a sward. In order to accomplish this object, sow in the first place a little grass seed over the ground, but only very little, then take the reserved turf or grassy sods that were taken off the ground at first, and tear them into pieces as small as you like—observe, pulling in pieces is better than cutting them—and the pieces may either be 3 inches across, or only 1 inch. When large they ought to be laid carefully over the ground with the right side up, when very small they may be scattered over the plot as in spreading manure; and although many of the pieces will be in any position but that in which they were before, yet if it be moist weather, which may be expected in winter, they will in most cases attach themselves to the ground and grow. When the growing season arrives a tolerably well-covered surface will be the result, certainly not so good as when good old turf is laid down all over the ground, but sufficient with a little patience, and the use of a little Clover and Grass seed, to make a good sward in a reasonable time, and that from materials anything but promising. Later in the season, or when it is dry, it would be better only to tear up the turf into larger pieces, and carefully lay these pieces with their proper side upwards all over the ground, more or less thickly as they are plentiful or otherwise, but assuming them to be about 3 inches wide then they might be 9 inches from centre to centre; take care to press each well into the soft ground, which is best done by only walking on the part planted instead of on the naked ground. Of course, seeds must be sown as well, and the whole well rolled, or otherwise smoothed, which rolling must be repeated on favourable occasions afterwards, especially after the patches begin to grow, or after rain, if the ground will allow of its being done at that time.

In recommending the above simple plan, I by no means assert that it is so good as using good sound turf from an old lawn or pasture; but as such is not always to be had, and there being some uncertainty with seeds, it is worth trying. We

have often covered with turf large breadths of ground in this manner, and if the soil is good, it is speedily covered. All stones, however, should be picked out, as the rain is sure to bring them to the surface if they are near it. Of course, a free use of the roller and scythe helps to improve the sward, or what is better, the mowing machine may be used when it becomes established, and this improves turf more than most people are aware of.

I may be permitted here to observe, that although I have had as much experience as most people with new lawns, I have never been very successful with those sown with grass seeds in the spring, and it is seldom, I believe, that the seeds sown at that time on ground fully exposed to the sun do prosper. The failure, with other observations, has led me to think that the seeds of grass require, while in the course of germinating, a certain amount of shade, and when we consider the mode in which Nature effects the sowing of grass seeds, both the season of year and the amount of shade are at variance with the method which we adopt. The most successful case which I ever knew of raising a good sward from seed, was when it was sown early in September. This was a near approach to the natural time, and the young plants are then encouraged by the long nights and heavy dews, instead of having to encounter the scorching sun of early summer—in fact, so necessary is shade for the well-being of newly-sown grass seeds, that it is good practice to give them some artificial shading. For sowings on a small scale, boughs of trees, mats, or other coverings may be used, and a plan better adapted for an extensive plot is to sow some robust-growing plant along with the grass to effect that object. Sometimes a thin seeding of Barley is sown with the grass seed, or some rapid-growing plant of the Brassica tribe—as Mustard or Coleseed. No inconvenience is experienced afterwards from any of these plants, as by the first cutting with the scythe they are annihilated. Shade, therefore, should be provided in early summer, but for seed sown in autumn none is necessary, as the plant at that time is so much encouraged by the long nights, and, consequently, shorter periods of sunshine.

Of the grasses suitable for forming the best lawns, I do not offer any opinion, but if a sward be cut from an old pasture, it will most likely be found to consist of the kinds best adapted to that soil and situation, and if removed to similar conditions would flourish there also. That many weeds find their way into our lawns cannot be denied, but the most careful selection of grass seeds will not prevent this, and Daisies, Crowfoot, Milfoil, Plantain, and Dandelion will in greater or less number be present. These plants if naturalised to the soil are not easily eradicated, but Clover is often used in grass mixtures, and some persons have no objection to Moss, but all coarse weeds are objectionable. I am not, however, so fastidious in this respect as some, and I have more than once on visiting a lawn belonging to those who take an immense amount of pains with it, been surprised at finding late in the autumn, when the weather has been mild, the whole surface covered with wormcasts in such a way as to collect to the feet and look badly when viewed either close at hand or from a distance. A little more roughness would have obviated this, and the presence of such plants as Yarrow or Milfoil effectually conceals wormcasts, so that after all this plant has its uses. It also possesses another not less valuable property, its deep-descending roots furnish it with juices sufficient to keep it in luxuriant growth in hot weather when the grass is burnt up, so that notwithstanding its being an intruder, perhaps in a lawn it is not altogether useless.—J. ROSSON.

MANURE FOR ROSES.

I HAVE a lot of wood ashes and old lime rubbish which I purpose mixing up with a quantity of loam and dung for planting Roses in at the end of the year. Will you say if the wood ashes and lime-rubbish are at all likely to be hurtful to the roots of Roses?

If it would be of any use to your readers I would with pleasure send you a list of those varieties which I find do well in a cold and late climate, as also a list of those found to be tender or bad openers.—SUNSET.

[We consulted the Rev. W. F. Radclyffe on the application of the wood ashes, and this is his reply:—"Mix the lime, soil, and decayed dung, if used, together, and then plant, but on no account put fresh wood ashes; the lye from them is highly caustic; moreover they keep the ground cold by retaining mois-

ture. Spread the wood ashes on the surface over the radius of the roots in November, and they will do good. If applied to land wood ashes and guano should both, or either, be sown on a stale fallow."

We shall be obliged by your sending the lists you offer.]

ELM TREE DISEASED.

A GENTLEMAN residing in Kent has an Elm tree in his garden which is suddenly showing symptoms of disease, the leaves turning yellow and falling off, and the tree is infested with hornets. It is asserted that the attack of the hornets on the tree is destroying it. On the other hand this is disputed, the opponents giving it as their opinion that the tree is perishing from other causes, and the hornets are attracted to the parts which have already begun to decay.—H. M.

[Several years ago some of the trees in the London parks suffered severely from the attacks of an insect (*Scolytus destructor*), burrowing under the bark. The same insect had previously been equally destructive amongst the trees in the Paris parks and gardens, and great fears were entertained that its ravages might extend in this country; but it appears not to have done so to the extent apprehended, and we have not made its acquaintance yet, so cannot give any advice respecting it. Elms are, however, subject to what we might call paralytic affections, as large limbs will break off in calm fine weather without the least warning and from no apparent cause. Aged trees are very liable to this, and thus become more or less disfigured; but we cannot account for the tree you mention falling so suddenly into ill health, unless something has happened to the roots. Perhaps they have been cut severely; or has any deleterious matter suddenly come in contact with them? The attack of hornets is evidently a result, and not the cause. We have always regarded the Elm as a healthy free-growing tree, but not destined to arrive at so great an age as the Oak, Beech, and Yew. It is a faster grower than any of these, and also arrives at a greater size. If we can hear of any similar case to yours, which is likely to throw any light upon it, we will record it. In the meantime it would be advisable to examine the roots; and though it is impossible to stop the bleeding, you may, nevertheless, try the effect of cutting off one or two of the branches most affected, and sear the wound over with a hot iron. We hold out no hopes of much success by adopting this plan, but it may do good.]

MANURING FOR AND PLANTING STRAWBERRIES.

ARE Strawberries likely to suffer from over-manuring? Some persons say it will make them run more to leaf than to fruit. I propose after trenching the ground two spits deep to plant them as Cauliflowers are planted—that is, to make a trench not so deep, and lay manure in it. Do you approve of this?—AGNES.

[You may over-manure as well as under-manure. It is a matter of judgment, depending on the quality, and on the soil. We do not approve of the planting in trenches, but always plant on the flat ground. Buy the varieties called Dr. Hogg and Mr. Radclyffe, they are very superior in every possible respect: fine constitutions, sure setters, beautiful plants, and hardy. Cockscumb is also a very good late heavy-cropping Strawberry, and so are Wonderful and Frogmore Pine. Mr. Radclyffe and Dr. Hogg colour well all over; Cockscumb and Wonderful do not colour so well to the points.]

ORCHARD-HOUSE CULTURE.

YOUR paper often contains accounts of remarkable successes in orchard-house culture; but "CONSTANT READER," page 140, seems the most fortunate of all. Not only do his Vine roots thrive among faggots and old wood, which usually breed fungus; but he ripens off Muscat Grapes, which in other places require artificial heat. His Vine-clad rafters produce no shade which is detrimental to the Peaches beneath them. His potted trees are "all paragons of perfection;" and what is still more remarkable, those which were put out into the open air in June had already, when his letter was written, produced "ripe fruit of exquisite flavour and colour." As he names only Apricots, Peaches, and Nectarines, and the word "colour" probably

refers to the last two fruits, his success has indeed been great. He does not mention in what part of the world this "relic of primeval Paradise" is situated. I, whose lot is cast in the south of England, have had so little sun to ripen off my fruit, that Peaches exposed to full light under glass, and thinned so severely that six are the maximum in an 11-inch pot, and nine in a 18-inch one, have in general been poor in flavour, and sadly deficient in sweetness. French Gálende is as usual the most satisfactory; Nectarines sweeter than Peaches; Apricots better than either; and indeed any one who has never tasted a Peach Apricot from an orchard-house can scarcely be said to have tasted one at all.

"CONSTANT READER" must not be offended at the freedom with which I have handled his communication, for in all probability our tastes may differ as to what "exquisite flavour" really is. I confess myself in the matter of ripe Peaches somewhat hypercritical and exacting.—S. B.

THE ROYAL HORTICULTURAL SOCIETY'S GARDEN, CHISWICK.

A CONSIDERABLE period has elapsed since the Chiswick garden has received more than a passing notice in these pages; but at the present time it offers many features of interest to the practical horticulturist, and others which would recommend it to the mere sight-seer as well. Thus the Vines in the conservatory are alone worth a journey to Chiswick to see; then there are the bedding plants on each side of the broad walk leading from that structure to the iron tent, and constituting a beautiful spectacle, as well as an admirable means of comparing the merits of rival varieties. Then, again, at right angles to the walk just referred to, there is another, having on each side beds of plants used in sub-tropical gardening, and terminating in the old main walk, between which and the northern boundary wall a new pinetum has been planted. We have thus described three sides of a square, the interior of which is principally occupied by the arboretum, where there is a valuable collection of ornamental trees, which, so long as they shall be clothed in their leafy dress, are a study of themselves, and many of them when touched with the mellow tints of autumn, are even more beautiful than now. Yes, there is a beauty in autumn leaves; they are often dearer to us in their old age than in their pride of youth, and though the feelings which they conjure up may not be untinged with melancholy, we have the knowledge that when spring returns the leafless branches will be clothed with fresh verdure, and that nature has but rested. But to return to the garden; there is still one more feature which renders it attractive at this time of year, and that is the extensive collection of fruit trees, which, notwithstanding the adverse season, are in good bearing.

Entering by the gate opposite Turnham Green Church, and passing along the walk leading past the office, or council-room as it is still called, and which completes the fourth side of the square before alluded to, on each side is a ribbon border, 90 or 100 yards in length, which until the late rains was very effective, but now the plants in some of the lines have grown rather tall and leafy as compared with others, and have, therefore, somewhat spoilt its regularity. It is thus planted—1st row next the walk, *Cerastium tomentosum*; 2nd, *Tropæolum Lobbianum*, orange; 3rd, Purple King *Verbena*; 4th, Mrs. Pollock *Pelargonium*; 5th, Rose Queen; 6th, Stella, on one side of the walk, Punch on the other; 7th, *Calceolaria viscosissima*. Beyond this ribbon border on the side next the arboretum is a collection of *Phloxes*, many of which are very beautiful. Here, too, used as an edging, was a pretty seedling *Lobelia*, raised by Mr. Bowie, gardener to Earl Tankerville, at Chillingham Castle, and which is in the way of *Paxtoni*, but more compact in habit, and with a greater proportion of white in the flowers. Having reached the end of this walk, we turn to the left and enter the conservatory, which now offers a spectacle which is probably to be met with nowhere else in this country. It is completely clothed with Vines from the bottom to the top of the lofty curvilinear roof, and they are loaded with fine bunches of black, red, and white Grapes, in various stages of ripeness. The Frankenthal, the most robust and healthy of the Black Hamburg varieties, is the most numerously planted, and the bunches are remarkably fine, especially those near the young wood; on Aramon, received here under the name of Burchard's Prince, there are noble bunches with large jet black berries densely covered with bloom. It comes in in succession to the Frankenthal, and requires a longer period to

ripen. It is of excellent flavour, and one of the best varieties for hanging late, but as yet is scarcely known in this country. There are splendid bunches of Barbarossa, which when ripe will probably weigh 7 lbs. each, remarkably fine bunches of Muscat Hamburg, and a good crop as well; Black Prince, very good, but not yet ripe; Black Monukka, remarkable for being seedless; and Jura Black Muscat, larger in bunch than the Black Frontignan, and quite as early. Of white Grapes, there are very fine bunches of Chasselas Musqué, Muscat of Alexandria, advancing towards ripening, and Chasselas Vibert, earlier than the Royal Muscadine, and a good variety for pot culture in a cool vinery. A Frankenthal Vine trained on the east end is worthy of remark, on account of its extraordinary production of fine bunches.

The curvilinear vinery, where a collection of Muscat Vines was planted some five years ago for comparison—an experiment which ended in all but two or three being found identical, is a model of productiveness, the Vines being loaded with a very heavy crop of large bunches. Besides the Muscat of Alexandria, to which the reputed varieties have been referred, the Canon Hall is very fine, and Trovère Frontignan is bearing good-sized bunches. In the lean-to adjoining is a collection of dwarf standard Fig trees in 10 and 12-inch pots in fine bearing, and a number of plants of the Rat-tailed Radish, with pods which for length are fully equal to those exhibited at recent meetings. A Vine-pit contains a numerous collection of Chasselas Grapes in pots for fruiting next season, so that they may be compared under similar circumstances; and in the long narrow house into which the glass wall was converted some years ago there are about 150 varieties, chiefly for trial, whilst in front are cordon-trained Peach trees.

The orchard-house reflects great credit on Mr. Barron's management; it is a model of neatness and careful culture, and the time occupied in examining the well-trained trees and their excellent crops of Apples, Pears, and Plums was spent as pleasantly, if not more so, than among what are usually considered the more ornamental subjects of the garden; but in reality what can be more ornamental than a well-fruited orchard-house tree? Of Apricots there were still a few, although the most of the crop had been gathered, but it had been, we believe, a fair one. In a Cucumber-pit, where there is a heavy crop of different varieties, there was one called Huntingdonian, a very handsome white-spined sort, with fruit from 20 inches to 2 feet in length, and an excellent bearer.

Near the vineries a quarter of pyramid Pears, presented some years ago by Dr. Hogg, were in fine bearing; and it may also be here stated that the Pear trees on the walls, which have always been well managed and very productive, as well as the dwarf espalier trees, are also bearing good crops. Though Peaches and Nectarines have this year suffered severely in most places from spring frosts, the crop here is tolerably good—a circumstance which must be ascribed to the care taken in protecting the blossom, for few places near London are exposed to greater vicissitudes of temperature than Chiswick, which in severe frost is almost invariably some degrees colder at night than the higher ground at Acton and Ealing, whilst in summer the heat is also greater than is generally registered in these localities. Spring frosts are very destructive at Chiswick, for a body of cold air seems to, and no doubt actually does, plunge by its superior gravity downwards into the valley, and destroys the blossoms, whilst on the higher ground these remain safe.

The plant-houses, which some years ago were almost denuded of their valuable contents, are again, it is most pleasing to state, gradually being replenished, and additional structures are being put up; thus, advantage has been taken of part of the old north wall as a back to a lean-to now in progress, 86 feet long by about 10 feet wide. This will prove a very inexpensive house, and it will be of great utility for growing *Pelargoniums* and other plants for the Society's meetings and for general purposes of decoration. Another span-roofed house, we believe, is also about to be commenced.

In a curvilinear-roofed stove, besides a number of well-grown Palms, *Zamias*, *Musas*, *Crotons*, and a nice bank of Ferns at the back, we observed about thirty varieties of *Lantanas*, the best and most showy of which were M. Rougière and Conqueror; likewise *Torenia asiatica*, which, though introduced upwards of twenty years ago, is even now not so much grown as it deserves to be. Another house, a lean-to, contains a large number of *Dracenas*, many of the individuals having the foliage very finely coloured, and a similar house is devoted to a collection of *Azaleas*, of course presenting nothing to

interest at this season. A small span-roofed stove is chiefly devoted to plants of recent introduction and others not yet generally cultivated, such as *Anthurium dieffenbachianum* and *amagillatum*, *Begonia Pearcei*, *Bartonia guttata* and *pubescens*, *Palicourea discolor*, *Peperomia arifolia*, *Dieffenbachia Barquiniana*, new *Marantas*, &c. We also noticed handsome young plants of *Spharogynia latifolia*, *Stevensonia grandifolia*, and a good collection of other Palms, many of which well deserve a more extended culture in this country; on the Continent they are very popular for a variety of decorative purposes, constituting quite an important branch of nursery commerce, and they are beginning to make their way into favour here.

In the propagating-house there is a very useful case which is employed in the multiplication of large plants, such as *Marantas*, *Dieffenbachias*, *Caladiums*, &c., and among the contents of other parts of the house are different Conifers in considerable numbers for distribution among the Fellows, various Japanese plants, *Poinsettias*, *Peperomias*, *Palicourea discolor*, and a number of *Cattleyas* sent home by Mr. Bowman, an intelligent young man who was formerly one of the foremen, but now a plant-collector in Brazil. The span-roofed propagating-pit is temporarily filled with *Bouvardias*, variegated *Hydrangeas*, *Petunias*, and a lot of Indian-rubber and other plants, which will soon have to make room for fresh occupants. In other pits we noticed a fine stock of *Roses* in 48-sized pots, Chinese *Primulas*, a considerable number of half-standard plants of *Solanum pseudo-capsicum* in one, and of fruiting *Aucubas* in others. One of these plants was a handsome bush quite 4 feet high, and other two were fine standards about 3 feet in height, and it is expected that the fruit of the whole will be in full beauty about Christmas. Several other pits contained miscellaneous decorative plants, and in one there were *Geraniums* with sweet-scented leaves, offering a great variety of form, and about eighteen different scents. That of *Odoratissimum* resembles a combination of the lemon with the apple scent; *Lady Scarborough* again has a very powerful odour, resembling that of the well-known Sweet-scented *Verbena* as it is commonly called, or more properly *Aloysia citriodora*. *Odoratissimum lobatum* has a powerful scent of peppermint, and *Citriodorum majus* also possesses a most agreeable fragrance.

The Rose-house at present is filled with *Nosegay* and *Zonale Pelargoniums* in pots. There are now many beautiful varieties which are, strictly speaking, only adapted for this mode of culture, whilst others are good either under glass or out of doors. The most striking for their beauty and profusion of bloom were *Dr. Lindley*, *Clipper*, *Monsieur Martin*, *Rev. J. Dix*, a very free-flowering scarlet with a white eye; *Eleanor*, *Lucius*, *Provost*, *Amy Hogg*, *Monsieur G. Natchet*, *Beauté de Surenes*, *Rose Rendatler*, *White Perfection*, and *Virgo Marie*. It seems a natural transition to pass from these glass-sheltered *Pelargoniums* to those bedded-out on each side of the conservatory walk, and which constitute a beautiful sight as well as a most interesting study. There, each in a small circular bed, a multitude of varieties are arranged as nearly as possible according to class and colour for trial by the Floral Committee, and though utility, not ornament, has been the leading idea in carrying out the arrangement, the effect of the whole, notwithstanding the great diversity of the materials, is excellent. It is also worthy of remark that every variety is distinctly labelled, which is a great advantage to those who are desirous of making notes on the kinds grown. The following are those which, at the time of our visit, appeared the best and most distinct:—

Scarlet.—*Clipper*, *Garibaldi*, *Eleanor*, *Punch*, *Glow* (Smith), *Commissioner*, and *Rev. J. Dix*. *Red Riding Hood*, bright scarlet, with a white eye, is conspicuous by its very dark zone.

Rosy Scarlet and Rose.—*Provost*, *Forester*, *Bonnie Dundee* (light cerise), *Excellent* (G. Smith).

Rose Pink.—*Christine*, *Wiltshire Lass*, and *Beauté de Surenes*.

Salmon.—*Souvenir de 8 Juin*, *Fanty*, and *Eugénie Mezard*. *White*.—*White Perfection* and *Purity*.

Nosegays.—*Stella*, *Cybister*, *Amy Hogg*, *Orange Nosegay*, *Le Grand*, *Waltham Seedling*.

Silver-variegated.—*Flower of Spring*, good habit; *Queen of Queens* for flowering, *Mrs. Lennox* for the purest white, and *Silver Chain* for its good habit and flowers.

Golden-leaved.—*Golden Chain*, *General Longstreet*, *Circle*, deep bronzed zone, fine trusses of scarlet flowers; *Glowworm*, narrow zone, of fine habit; *Beauty of Oulton*; *Little Pet*, very compact.

Tricolor.—*Mrs. Pollock*.

Among the *Verbenas* are several beds of *Mr. Wills's seedlings*, which are quite a new race, and some very pretty Italian-striped varieties. *Malindres superba* (Wills), is remarkable for carpeting the ground so closely, and *Oberon*, from the same raiser, is a very effective deep rosy crimson. *Crimson King* and *King of Scarlets* are likewise most effective.

Turning into the walk, on each side of which the sub-tropical plants are growing, well sheltered on the one side by the arboretum and on the other by the tall Lime trees forming the Duke of Devonshire's avenue, we find *Cannas*, *Wigandias*, *Castor Oil* and *Indian-rubber* plants, *Polymnia grandis*, *Nicotianas*, *Solanums*, *Dracenas*, and other tender plants. We noticed *Cyanotis vittata* in a bed, with *Solanum auriculatum* for the centre, growing as luxuriantly as it usually does in a stove, variegated *Pampas Grass*, variegated *Bamboo*, and variegated *Maize*, here beautifully striped. Another effective ornamental Grass, though not variegated, is *Panicum sulcatum*. *Coleus Gibsoni* also formed a compact bed, which, from the dwarf habit of the plant and the blackish hue of the foliage, was effective, and so was a bed of the variegated *Coltsfoot*. *Iresine Herbatii*, as bedded-out here, presents a very good appearance, not so, however, the new *Alternantheras*; but position or other circumstances may have had some influence in this result. Of other plants *Canna peruviana* was in fine bloom, and so were *Solanum laciniatum* and *robustum*. A better position as regards shelter for a sub-tropical garden could hardly be found, and the planting of this eastern part of the garden with subjects such as those indicated above, has effected a great improvement on its former aspect.

Among other improvements, it may be mentioned that a large number of *Roses* have been planted in the new Rose garden, that walks have been mown through the grass of the arboretum, and, which is of still more importance, a pinetum, as already stated, has been formed on a slip on the north side of the arboretum. All the specimens are young and legibly named, and as they advance in growth from year to year they will also greatly increase in interest. All the kept parts of the garden are in excellent order, and *Mr. Barron*, the Superintendent, deserves all the more credit for this, inasmuch as there are heavy demands on his own time and that of his men, such as do not occur in private gardens.

SOWING GERMAN AND INTERMEDIATE STOCKS—ALYSSUM CUTTINGS.

It was mentioned a week or two since that this was a good time for sowing German and Intermediate Stocks; tell me whether they will stand in the open borders, or if they should be protected from frost until the spring.

I was very unsuccessful in striking cuttings of the Variegated *Alyssum* last spring; state if they take more easily in the autumn, and whether they should be struck in heat or in a cold frame?—E. S.

[The Stocks may be sown anywhere now in pots, and then kept in a cold frame or pit all the winter, plenty of air being given.]

The Variegated *Alyssum* will strike freely now under a hand-light or in a frame, where it will be kept rather close and shaded from the sun. It will strike in a third of the time in spring if the cuttings are afforded a little heat.]

LILIUM AURATUM.

I FORWARD to you my yearly account of the progress of *Lilium auratum* here, as from the numerous letters I receive from many parts of Great Britain and the Continent it would appear to be of some public interest. The bulb is now in a 15-inch pot, with three stems; the largest two are each 9 feet 6 inches high from the surface of the soil, one with fourteen flowers, the other with thirteen; the smallest stem is 2 feet high, with one flower, making a total of twenty-eight. The largest of the flowers are about 1 foot in diameter—not so large in proportion to the strength of the plant as in previous years; but, perhaps, this may be accounted for by the fact that I was anxious to bring the plant into flower, and subjected it to the temperature of the East Indian-house (Orchid-house), from the time the buds were half-matured until several of them were expanded. In this way I had it in flower in less than half the

time I should in an ordinary greenhouse. The girth of the largest stem near the bottom is 8½, that of the other 8¼ inches.—**ROBERT BULLEN**, *Gardener to A. Turner, Esq., Bow Bridge, Leicester.*

LIST OF ROSES.

LAST year Mr. Radclyffe was so good as to give you, at page 209, Volume IX., a list of thirty-six of the best Roses; would he revise that list by this year's experience, and add to it so as to increase it to fifty Roses? With respect to the thirty-six, I can say that, excepting *Duchess of Norfolk* and *Duc de Cazes*, which did not succeed very well, and *Eugène Verdier*, *Achille Gonod*, and *Triomphe de Paris*, which I did not plant, all the rest made and are still making an admirable display.—**P. C.**

[I have had little or no experience of Roses of any kind this year, but last year these were very, very good: *Duchesse de Caylus* A1, *Bushon Radclyffe*, *Duc de Wellington*; I think they are three grand Roses. I have just ordered of Mr. Rivers twelve *Duchesses de Caylus*, twelve *Marguerite de St. Amand*, twelve *Bushon Radclyffe*. *M. Boncenne* was the best crimson Rose at the International, and *Marguerite de St. Amand* was A1 in light colours in every box at the National—a fine Rose. I have only seen my Roses three times this season. They were most glorious, but the novelties had bloomed out when I went to Bushon, twelve miles off, so I am much in the dark. *Maréchal Niel* is glorious colour, but I fancy it will not stand well out of doors; my *Briar* and *Manetti* plants of it (gift of *Verdier* and *Turner*), have been signal failures.—**W. F. RADCLYFFE.**]

HOYA CARNOSA NEGLECTED.

I FOUND in the greenhouse of a house to which I have lately moved, a plant of *Hoya carnosa* in a nine-inch pot. It appears to have been neglected for years, but the leaves look healthy. As I made alterations in the greenhouse, I put the pot out under a south wall, where it has been all the summer, attended to as to watering.

The only place I have for it is on the ground in a warm greenhouse, trained against the end of the stage. If needful, what soil should it be repotted in? and should it be cut back or not?—**THORN.**

[Shift the *Hoya carnosa* into a pot 12 or 15 inches in diameter, remove a portion of the surface soil, and fill up with a mixture of equal parts of rotten dung, loam, lime rubbish, and sand. Do not prune the plant at all, but leave it as you propose at the end of your stage in a warm house; and if you can give it plenty of sun, plenty of water in summer, and little in winter, you will be rewarded with a profusion of flowers. It is one of the finest of our old plants, and your house is the place for it, but it must have light.]

LAXTON'S PROLIFIC EARLY LONG-POD PEA.

As the raiser of this Pea, my object in writing to you is not to combat the opinions expressed in letters from "AN AMATEUR" and others in your Numbers of the 14th and 21st of August, as I am content to let the Pea stand or fall by the voice of public judgment alone; but that the condemnations contained in the letters alluded to are not universal, I have proof abundant in flattering reports of the successes of other growers who have volunteered their opinions. "AN AMATEUR" appears to have assumed that it has been announced as the best Pea in cultivation, and to have condemned it as not answering that description; he may have been disappointed as many others must be who look for improvements in all points in a new Pea or plant.

Had Messrs. Carter announced it as such they could hardly have been liable to a charge of deception; but they have in their description of it, I think, been singularly moderate and faithful.

My object, however, in troubling you is to explain what I believe to be the origin of the three so-called varieties in the seed alluded to by "AN AMATEUR." The variety in question is the result of a cross between *Beck's Prizetaker* (true), and *Sanger's No. 1*; and although the appearance of the seed as evinced in my own sample would lead one to suppose there were three varieties, yet the produce in the growing state will show but one character with very slight variations, and this is not the only Pea which exhibits such a tendency. *Dickson's*

Favourite has been likened by high authority to the variety in question, and has probably originated from crossing two Peas of a similar class. *Dickson's* partakes of a like mixed character of seed, and the variations in the growing produce are also insignificant. It is a characteristic of many crossed Peas to show in their produce after the second generation seeds like both parents and intermediate, and possibly this may explain the appearances alluded to.—**THOMAS LAXTON.**

IN February last I purchased a quart of this Pea raised by Mr. Laxton and sent out by Messrs. Carter. With me I find it is a very good second early variety, certainly much larger in the pod than the other Peas of its class, quite equal to them in flavour, and ripening about the same time. I have now growing three rows of 12 yards in length, and each row is loaded with fine long pods. I intend to cultivate this variety largely next season.—**W. WOOLLEY, Seedsman, Bunbury.**

VIOLA CORNUTA.

WITH reference to your reply in No. 281 to "M. K., Bristol," I beg to say, that towards the end of last May I bought six little plants in pots, and turned them out into lightish soil. They grew very fast. I soon began to take cuttings, and have now more than 350 rooted plants, while the originals have spread so as to cover more than a square foot of ground each, and are in beautiful bloom.

I never made cuttings of anything which rooted more easily. I inserted them in light sandy stuff, about twenty under a six-inch bell-glass. I think every one grew. They are all out now, some in their places, some in a reserve-bed, nice stocky little plants. Mine appear to have one fault, they bloom towards the outsides of the plant, the centres being void of blossoms. I take it for granted that I have the true sort, as I bought them of Messrs. James Carter & Co.—**THORN.**

MILDEWED GRAPES.

I HAVE been a successful Grape-grower for many years; but this year my crop of *Black Hamburgs*, though excellent in size of bunches and berry, is completely ruined by mildew. The leaves of the Vines are perfectly healthy, but not one of the bunches will be fit for use. My Vines never had the slightest attack of mildew before, and I am not aware that their treatment this season has been different from that of former years. What ought to be done? Would it be well to cut off the bunches immediately? and what precautions should be taken to avoid this pest for the future? I have a crop of *Muscats* very slightly attacked, and the disease does not seem to increase. The orchard-houses as usual are full of fruit.—**W. C.**

["Completely ruined," though a very strong epithet, is not so definite as to enable us to judge whether some of the berries might not be saved for table use. If they are not burst we should have a dish full of flowers of sulphur held under each bunch, so that the bunch rested in the sulphur; and we would rub each berry between the fingers and thumb, so as to have it thoroughly covered with sulphur. This ought to have been done when the mildew was first seen on the berries. We have seen some very severely attacked by the mildew saved by the treatment we have specified. If the berries are all burst cut off all the bunches and burn them. Sprinkle sulphur over the borders at once, and when the leaves have fallen from the Vines paint the stems with a creamy mixture of soft soap, flowers of sulphur, and water.]

NOTES AND GLEANINGS.

WE are informed that *Lady Dorothy Nevill* has determined on parting with her collection of tropical fruits, which is perhaps the finest both in regard to extent and condition in the country. Here is an opportunity for any one who is disposed to begin or extend this interesting branch of culture to possess himself of true specimens of the best exotic fruit trees. The *Mangoes* are remarkably fine, and flower abundantly every year.

—**MR. RIVERS** has raised another seedling *Nectarine* from the seed of a *Peach*. It is not yet named, nor will it be for a

year or two, till Mr. Rivers has, as he always does in such cases, proved the constancy of its good qualities.

THE works at the Alexandra Park and Palace are now in full operation, not less than two thousand men being employed on the building and the grounds, both of which are fast advancing towards completion. The Park, under the able direction of Mr. McKenzie, is being carried out in a splendid style according to his own plans; and from that portion which is already completed one can now form an idea of what the future of this charming estate, with its fine picturesque scenery, is likely to be.

WE have before us the third edition of that admirable little work by Mr. William Paul, "Observations on the Cultivation of Roses in Pots; including the Autobiography of a Pot Rose." The mere fact of this being a third edition, and that the author on such a subject is Mr. William Paul, supercedes the necessity of any further observation.

MONDAY last being the day on which the Royal Horticultural Society's gardens at South Kensington were thrown open to the public in commemoration of the birthday of the late Prince Consort, it is estimated that no fewer than 150,000 persons took advantage of the privilege. Several bands gave their services gratuitously on the occasion. We are also authorised to state that to enable the public to inspect the plants and grounds in greater quiet than on such a day, the Council have determined to open the gardens free on every Wednesday during the months of September and October.

At the meeting of the Floral Committee at South Kensington this day, we are informed that Mr. Bull will exhibit a plant of *Amaryllis Josephine*, with upwards of fifty flowers.

WORK FOR THE WEEK.

KITCHEN GARDEN.

KEEP the hoe and fork constantly at work amongst all advancing late crops. *Celery*, proceed with the earthing-up in proportion to the demand; some of the very latest crops may also be planted in rows to stand through the winter. The haulm of Peas laid by now in a dry place is a good material for covering *Celery* during severe frost. *Cabbage*, the seedling plants intended to stand through the winter, must now be pricked out into nursery-beds of light soil at 5 inches apart, this will be found of great advantage, by inducing a stocky, hardy growth. *Endive*, continue to make successional plantations, some of the first planted out will now be in a good condition for tying up for blanching. A few only at a time should be tied, and these loosely, to allow the heads to swell out large. *Lettuce*, a small patch of Bath Cos sown now will, if the autumn prove mild, be more valuable than those sown earlier. *Mushrooms*, now is the last time to make beds out of doors. The various methods of growing them both in-doors and out, were last week ably set forth by Mr. Fish. *Onions*, no time should be lost in storing the crops fully dry. As the ground from which they are taken is generally used for *Cabbage*, it should be immediately trenched up; if manure is necessary let it be laid on the top of the trenched soil, and fork it in; if, however, the ground was well manured for the *Onions*, it ought to carry the *Cabbages* through, and they will always be the better, because if too much manure comes in contact with the roots in the autumn, it induces a succulent luxuriant growth, which renders them far more liable to injury from alternations of frost and thaw in the winter. *Radishes* may still be sown.

FRUIT GARDEN.

Apples and Pears require constant attention now. Gather the various sorts as they ripen, and let the operation be performed with as much gentleness as if they were eggs, for wherever an Apple or Pear is bruised there is laid the foundation of premature decay. Peaches and Nectarines must be looked over daily, and gathered as they ripen, as a fall, even when nets are suspended to relieve them, is fatal to their flavour and appearance if they have to be kept a day.

FLOWER GARDEN.

Besides keeping every part of this department in the neatest order, the propagation of the stock for supplying next season's demand will engross all the time and attention that can be spared. In all cases, the number of plants which it will be necessary to provide should be noted down, allowing a wide margin for contingencies and losses. The earlier-struck cuttings must be potted off, and after they become established,

placed out of doors in an open situation, bearing in mind that all the more delicate bedding *Geraniums* should well fill their pots with roots before winter, or many will be lost. While propagation is being proceeded with, attention must be turned to the amount of winter accommodation, which, whether in the shape of frames, pits, or larger structures, should be put in readiness to receive the plants before bad weather sets in. Though more expensive in the first place, a series of brick pits from 5 to 6 feet wide, will be the cheapest in the end, and if heated by running a four-inch pipe round them, mats may be dispensed with; besides, pits of this class would be valuable during the summer for a variety of purposes. The late heavy rains have caused considerable derangement amongst the flowers. Immediate attention should be given, and all deficiencies from such injuries at once replaced. Attention must be paid to the layers of *Carnations* and *Picotees*. It sometimes happens that the wireworms (young ones almost as thin as hairs), have in addition introduced themselves into the pith of the layers, to their certain destruction. When one is destroyed, it is advisable to lift the pegs which hold down the others, and closely examine them; if at the section of the stem a bran-like appearance is visible the enemy is not far off, and it must be carefully sought and destroyed. Continue to plant out *Pinks* as they strike root, bearing in mind that those which are put out now in the places where they are to flower next season, generally lace much better than those planted in the spring. Plant offsets of *Tulips*, and commence arranging the best bed for planting.

GREENHOUSE AND CONSERVATORY.

Any inmates of these structures which have been placed out of doors will still be much benefited by being out, even for two or three weeks more, especially all those which appear long-jointed or somewhat pale. If drenching rains occur, any tender plants which are likely to suffer damage should be taken in-doors again; there is no occasion to house the whole stock at once. Plants impatient of moisture should not be kept out too late, the nights are becoming long, the solar heat will soon be much diminished, and, of course, evaporation will proceed at a slower pace. When *Camellias*, *Chinese Azaleas*, and the hybrid Indian *Rhododendrons* were not potted in the spring and require shifting, the present will be the most favourable time, as the young wood is now becoming somewhat firm and the flower-buds are perceptible. As this class of plants require water very liberally during one period of their growth, drain the pots well, and use very turfy peat and sand, adding an equal portion of fibrous loam for the *Camellia*. Most of the class of bulbs known as Cape bulbs, if obtained now, might by the aid of a little extra heat be had in flower at various periods throughout the winter and early spring. Any of the free-growing species of *Ixias*, such as *flexuosa*, *viridiflora*, *conica*, &c., would be suitable, as also would the varieties of *Sparaxis* tricolor. *Amaryllis vittata*, *Johnsoni*, and the innumerable allied mules, are splendid, and might be bloomed by gentle forcing. *Lachenalia pendula*, tricolor, and *luteola*, with many species of *Oxalis*, would serve to increase the variety, and are all handsome individually; of *Oxalises* perhaps *vernicolor*, *hirtella*, and *cernua* would be as easily procured as any, but many others are equally good. *Ornithogalum aureum*, a fine orange-coloured species, and some of the white ones, as *lacteanum* and *revolutum*, are desirable plants. *Cyclamen coum*, *vernium*, and *persicum* ought not to be omitted.

STOVE.

Plenty of moisture in the atmosphere and plenty of air are still essentials, increasing the ventilation progressively as the plants approach towards the next period, and insuring them to much more sunlight in a similar ratio, at least those which have made a strong and early growth. Shading will of course be dispensed with, except in the case of bright sunshine and during the middle of the day. Pay every attention to such superior stove plants as *Allamandas*, *Dipladenias*, *Stephanotis*, *Echites*, *Euphorbia*, and *Luculia*. A considerable number of *Orchids* may now be selected from the general stock, which, having done growing, require a temperature gradually declining, accompanied with a drier atmosphere, and, for some kinds, a pretty free exposure to the sun and light. Where different structures are devoted to this family no difficulty exists in affording to each section a suitable temperature both in the seasons of active growth and repose, and in those transitions from one state to the other during which, perhaps, plants require the greatest care. On the contrary, where one house is made to contain a class of plants which vary nearly as much in constitution as they do in form, contingencies of all

sorts must be had recourse to for accommodating them during some months of the year. Pinerias, vinerias, a warm greenhouse, and spare pits present themselves as affording room where a greater or less number of this interesting family may pass their vacation when the more active duties of the season are over. The thinning out of the principal house will permit of the remaining plants having more room, and enable such kinds as are coming into bloom to be brought forward to meet the eye.—W. KEANE.

DOINGS OF THE LAST WEEK.

HAD nearly a day's watering on Tuesday, the 28th ult. Chiefly applied the water to Peach-tree borders out of doors, and such strong-growing plants as Salvias in the flower garden, using principally house-sewage water. We felt confident that we should have rain before long, but we made allowance for that in using the sewage, as that always seems to tell more wonderfully when a moderate rain and a cloudy sky follow the watering. Had we known that there was to have been such a drenching rain as that which fell on Tuesday evening and Wednesday morning, we might have saved ourselves the labour and finished some other work. We are sure that the sewage watering will tell as expected, still it would not have been so urgent a work, if the heavy rain had been a certainty beforehand. The change in the weather, though a drawback as regards the harvest, has helped us in another way, as it will retard the fruit a little in the orchard-houses, which with all the air possible, and a little shade, is ripening faster than we want it. We could have easily kept it later by leaving air on in summer instead of shutting up. In fact, by a little attention in the management, fruit may be obtained in orchard-houses unheated, considerably earlier, or considerably later, than on the open wall.

KITCHEN GARDEN.

The chief work here besides hoeing to keep down all incipient weeds, has been sowing Lettuces and Turnips, planting out Endive, Lettuces, and a border of American Red-topped Stone Turnips, which the rains will make all right. These were planted in rows 15 inches apart, and about 7 inches apart in the rows, as that, after this season, will give plenty of room for nice useful tubers, more especially if the most forward be taken up first. From 3 to 4 inches across is quite large enough for such tubers to be used at the parlour table. At that size they will be crisp and white at the root end, instead of brown, hard, and stringy. This border will come in in succession to that from which the thinnings were taken for planting, and will be several weeks earlier than a fresh sowing. One of our best gardeners told us the other day, that Turnips were a perfect plague to him. Do what he would he had his borders and quarters cleared off by the fly. He perceived at once that by sowing under some kind of protection, and planting out after the plants had made several strong rough leaves, he could beat his enemy. The drawback is, that in sunny weather the plants would require frequent slight waterings until they had taken hold, when they would look after themselves. In dripping, or cloudy weather, there is no difficulty whatever. The plants very soon make themselves independent, and the labour is not much more in planting than in sowing, protecting from birds, and thinning to the requisite distance.

It has not been generally considered that such Turnips may be transplanted as successfully as Swedes. The chief point is that whilst fixing the root, the collar of the plant should not be buried. Even in this little matter, less care is needed than in transplanting an Onion which we wish to bulb well. Well-aired soil, enriched with rotten dung or leaf mould, is the best preparation for a sweet, crisp young Turnip. When weight of tuber is the object, the manure may be used less decomposed, and plenty of it, and if assisted with the stimulus of artificial manure, such as guano, superphosphate, broken half-inch bones, or droppings from sheep fed on trellised boards in winter, all the better.

Dissolving Bones.—A gentleman told us the other day that a farmer effected this process in a very simple economical way without the help of sulphuric or any other acid. A heap of damp pig and other dung was thrown together, so as to produce a good heat, the bones were well wetted with strong water from the manure tank, placed on the hotbed, and covered all over for a foot or so in thickness with the same materials, and the steam and the heat caused the bones to fall down in powdery

flakes, when the whole was mixed together. The plan may be well known, though we have no recollection of meeting with it. We have slowly dissolved, or rather broken down, a small heap of bones by frequently wetting them with strong urine drainage from houses, and then covering well up with litter.

Tomatoes, however grown—against walls, fences, or on the ground—will now want regulating, removing many of the larger leaves, and exposing the fruit to the sun. This plant, unless the roots are much confined, is sure to grow rampant in such a season as the present, and one of the best means of keeping it fruitful and within bounds is to stop the shoots repeatedly after they show their bunches of bloom, and remove when too luxuriant a good portion of the larger leaves. So treated, the plants will need little water after the plants are fairly established. Few people in this country, as yet, adopt the American system of using the Tomatoes when in a young green state as a constituent of salads.

Potatoes.—During the heavy rains of Wednesday looked over the Potatoes, and was sorry to find as pretty a sample as could be seen—when housed not a speck or mark of disease upon them—now very much infected, which we regret all the more, as most of them were intended for seed Potatoes. For several years we have seen little of the disease until after the Potatoes were housed for some time, in shallow bins, too, and in an airy place. This is one of the most puzzling facts connected with this still little-understood disease. We have advocated fresh soil and an open situation, instead of the old soil and close situation of a kitchen garden; but we have since learned that a market gardener who makes a large profit generally by securing fine samples of all the earlier kinds for selling for planting, will have few if any to dispose of next spring, as, though his stock was harvested in excellent order and from an open situation, the Potatoes are going very fast now. It is to be hoped that this will not be at all general. The weather has been such as we might expect the disease among late kinds in moist sheltered places, but there was but little of such weather before the early kinds were taken up, and we can assign no reason why such crops, taken up early, and housed in a sound condition, should begin to go all wrong a month or so afterwards. It also seems doubtful if such samples could be perfectly healthy to use when they showed no signs of disease, as the germs of that disease must have been in them before they were housed.

Mushrooms.—See last week. We again allude to this subject because an "OLD CULTIVATOR" who used to be troubled in summer with maggots, thin Mushrooms, and these going off and crumbling up in his house with platforms in the usual way, examined our little bed, producing nice Mushrooms in our shed, thatched at top, open in front, and shaded by trees. The depth of the old bed at the end of that being cleared out, he found to be rather less than we stated—namely, 14 inches at back and 12 in front, earth and altogether, and on poking with his stick he satisfied himself that fully half that depth was chiefly rather long litter, with shorter litter and droppings at the top. Of course we would have preferred that for that depth all, or nearly the chief part, had been droppings. We have had Mushrooms good all the summer in a large house, the bed on the floor, with means of wetting the floor and syringing the walls, but in a small narrow house, and furnished with platforms, we have not been so successful in the hot summer months. We have also succeeded very well in a sort of underground cellar, where the temperature and moisture of the air were very uniform. We have helped to make beds in an underground Mushroom-house, and where they did well in summer, and well, too, in winter, only requiring a covering over the beds at the latter season. The ground was cleared out as for the cellar of a house, a wall of old bricks and stones built all round, and piers on each side in the centre, with room left for a path between the beds. Stout flat iron rods went across from wall to wall, resting also on the piers, these rods being 18 inches below the ground level. On these slates and flagstones were placed, which were again covered with earth rammed down, averaging 18 inches in thickness, and slightly in the ridge form, highest in the centre. On this was rolled about 1 inch of fine gravel and tar, extending a yard beyond the side walls so as to take off the damp, this concrete top being only a few inches above the surrounding ground. There was a stair, with a door at the end, covered with a flap-door to keep the wet out. This house answered well all the time we knew it. It was cool in summer and warm in winter, but all the material had to be carried in baskets to the beds, which greatly increased the labour. For summer work we have found

nothing better than a shady thatched shed, where you can regulate the force of a breeze pretty well at pleasure. Before we used it, and having no large house that could have been kept cool, and no underground place, we used to have much difficulty with Mushrooms in June, July, and part of August, if the weather was very hot. That might have been surmounted by more thorough but equal ventilation in a narrow house, but even then it is advisable to have the Mushroom-house unoccupied for a few months in summer, so that it may have a good cleaning, smoking, &c.

Cucumbers.—Potted off some for winter work, if wanted. Regulated others in beds. Both Cucumbers and Melons in frames will be the better of some linings, as litter and grass, round the boxes now, so that they may not receive any check.

Gathered Vegetable Marrows before they became too old. For some years we have dispensed with the usual hotbed beneath these vegetables, but where early gatherings are desirable it is well to give the plants a rough hotbed below the soil, and a hand-light when first planted out. They then grow with such vigour, and root into the dung, as it decomposes, so freely as to give little more trouble for the season than gathering the young fruit, which in the long kinds should scarcely be more than $1\frac{1}{4}$ inch in diameter. After trying many sorts we must say that we like the old long-shaped Vegetable Marrow, which turns to a bright yellow when ripe, the best of all. That is no reason why others may not prefer the Custard and other choice-named kinds.

FRUIT GARDEN.

Can do nothing now to clear away runners of *Strawberries*, until dry weather sets in. In stiff, strong soil, where the leaves keep pretty compact and close to the ground, would not move a leaf from the plants further than might be necessary to give light and air to those left; but on light rich ground, where the foliage is nearly up to one's knee, and becoming brownish by this time, there would be no harm if a good portion of the tallest were pruned off soon after the fruit was gathered, as then there would be time for the buds to mature themselves, and the plants would be more compact and fresh all the winter. Circumstances may thus alter practice, but as a general rule, in good Strawberry soil, it is well not to touch any of the leaves until they are browned by the winter's frost, and they are, therefore, trimmed a little in spring as the young leaves expand. These old leaves act as a protection to the plant in winter. On the other hand, on light rich soils, where the old leaves are removed early, the young leaves formed by this time, are seldom injured by frost. In a word, if the soil will keep the leaves of *Strawberries* green until the end of autumn, that is a plain sign that there at least the cutting or removing the leaves would be wrong. When the foliage becomes brown and withered, as in some places it is often seen in August, then such foliage can be of no use further than as a mere protection to the buds, and the buds would have been better with the young stiff foliage around them instead of the old.

Gathered some of the riper Apples, as the birds began to peck them. We shall have few Pears or Plums this season, except where the buds have escaped the destructive bills of the birds. They so nearly killed outright some nice dwarf Plum trees, that we were obliged to allow these to throw out from the older wood strong shoots, to be stopped and treated so as to produce masses of fruit-buds. These trees were so prolific of fruit-buds as to require previously but little trouble, except to syringe them for a little fly, and gather the fruit. Two or three fine Thorn trees were so completely cleared of flower-buds and wood-buds as only to maintain their vitality by breaking pretty freely all over the older wood. Cherries and Apples were little touched by the birds this season, as respects the buds, and they have produced their usual crops. The birds seemed to take themselves off for a short time as the buds of Apples and Cherries were swelling. Some birds suffered for attacking the Cherries under nets, but on the whole as respects the Cherries, the "black mail" demanded was pretty well earned by good service in other respects. We are anxious to keep a good crop of the Florence Cherry as late as possible, and had it, therefore, double-netted and lost but few by the birds. The ants were a smaller but more difficult enemy to dislodge. We could syringe the tree heavily to bring them down, and then throw some quicklime on the ground, which they abominate. A good plan would have been to have placed a few saucers on the ground supplied with honey, or sugar and arsenic, with a saucer over it, and openings large enough for the ants to enter. A band of tar along the bottom of the wall will also keep them down so long as it is damp, and not longer.

Even then they are not easily conquered, being as famed for perseverance as even the spider itself. We have watched a detachment of them going along fully 50 yards at the foot of a wall, going up where it was clean, and marching back again on the wall to reach the coveted plunder.

A new enemy has appeared within a few days in the shape of *wasps*, which have troubled us but little this season. A nest has been found near at hand, and treated in the usual way, but use what means you will, you will never catch all the industrious wasps at home, and the finest decoys in the shape of sunk bottles with enticing fluids, will fail to tempt them all to enter; and deprived of the stimulus of having a home to care for and young wasps to feed there, the marauders will give themselves up to feats of gluttony, eat, rest, sleep, and eat again without greatly shifting their quarters. In these circumstances, such a rain as we have had, if a little colder, generally settles, at least for a time, all these gorged, swelled-out, muzzy, yellow-coated plunderers—not but that suspended bottles of saccharine matter, and double hand-lights, with a hole at the top of the lower one, are not good traps for catching all such interlopers, but a few days' rain will often do much to set them adrift, and if their wings are wet they are easily caught.

An amateur lately directed our attention to a sort of scavenging employment for which he had found wasps very useful. He had a house with Vines trained up the rafters, and Peaches against the back wall. These Peach trees were very much infested with fat scale, that was making sad havoc of his trees. A colony of wasps were in turn making havoc among the scale insects and their sweetish excretions, and not a berry of the Grapes was touched; but when they had worked their sweet will with the attractive scale insect, we should be a little surprised if, of their own accord, they left the tempting vicinity of the ripening Grapes. Some years ago we saw a Peach-house a perfect nest of wasps, though the fruit had been cleared out more than a month, and here, too, the scale which had been allowed to have its own way was the great attraction.

Out of doors on walls and inside in orchard-houses, &c., *earwigs* and *woodlice* have begun to nibble the fruit, and it is annoying to find fine fruit with just a little hole in it that makes it unfit to go to table. The older and the opener the seams in a wall the more will woodlice choose such places for their best living and breeding quarters. Before the fruit begins to become soft it is a good plan to lash the wall and trees either with clear water or clear soot water, or clear water with as much quassia water added as to make it a little bitter. This repeated several times before the leaves become dry will send most of the woodlice to the bottom of the wall for shelter, under clods, &c., and many may be destroyed by beating heavily along the side of the wall with a clean spade. Then if a band 4 inches wide is painted along the bottom of the wall in tar and oil the woodlouse will not cross it so long as it is wet. This may be done as respects any wall out of doors, but it would be dangerous to do it in a house, under glass. There small pots, with a bit of boiled Potato in them, covered with dry moss or hay, may be laid down and examined every morning, and the hiders treated according to the whim or taste of the trapper.

Similar means will also entice the earwig, and keep the wingless ones from ascending, but it likes a hollow tube to hide in during light better than all these, and of all tubes is fonder of none than a hollow beanstalk—say a foot in length, stuck among the branches of the tree. Examine these tubes every morning, and, putting an end close to your mouth, give a brisk blow which will send the earwig, if there, out without ceremony at the other end, into a pot of water or any other contrivance considered more suitable. We have counted twenty blown out of a single beanstalk 9 inches in length.

Preserving Morello Cherries and Currants on the Trees.—We have had both good after Christmas—the Morello merely by matting or Nottingham fine netting, kept at a distance from the tree; and the Currants by using mats, straw ropes, or netting. However done, there is generally great loss from those decayed, and the trees are more or less injured, so that in general, but for having the fruit fresh gathered, it would be better to gather and bottle when the fruit was at its best. The best method we have noticed for preserving Currants, Gooseberries, &c., on the bush, we saw from twenty to thirty years ago, at Tingleth, and we believe the same plan is adopted there still. A light iron frame was made, about $3\frac{1}{4}$ feet in diameter, and as much in height, having a rim for resting its bottomless base on the

ground, and a rim at top over which projected a light tin lid, painted. The lower and upper rim were connected by upright bars, and round these bars was stretched and fastened Nottingham-lace netting. The lid threw aside the rains, the small holes of the netting allowed air to enter freely, and a good amount of subdued light, but kept out the smallest of our winged insects, not to speak of birds and larger enemies.

ORNAMENTAL DEPARTMENT.

This has been one of the most troublesome seasons we have known as respects lawn-keeping; it has been mow or machine continually. Some lawns have been allowed to become rather rough. Even that most in sight would scarcely be presentable if not gone over three times in a fortnight. At longer intervals we have had to use the machine twice on the same ground, or mow with the scythe, and in either case there was so much to take away that we found delay, though it could not be helped at times, was anything but an advantage. After these rains a fine opportunity will be given for eradicating large Plantains on lawns, weeding walks, and rolling walks and lawns, and that rolling will help to keep worms longer from disfiguring the surface of either.

Worms seldom show in walks that have been dressed with salt, but ours are already too smooth to put salt on them. The roughest walk on the surface will ere long become smooth enough if well salted on the top. Walks at all smooth, if salted, will retain moisture so much as to be almost impassable in winter. But for these after-effects there is no plan so economical for keeping walks bright in summer as throwing a coating of salt over them on a sunny day, and when you may expect some days of bright weather. There is only one way in which we could use salt for smooth-surfaced walks, and that is by covering the salt with a slight sprinkling of fine gravel from which the mere dust was excluded. This, rolled in after wet, would give a nice walk for the season, as the fresh material would prevent all softening and lifting, and the salt beneath would keep the weeds from growing.

Went on regulating plants and houses; potting Cinerarias, Primulas, &c.; cutting down Pelargoniums; put in cuttings of bedding stuff, much as detailed last week. Now is a good time to top-dress Roses for forcing. Took up and potted firmly such shrubs as coloured Ribes, Lilacs, Syringas, and Rhododendrons. These should be plunged in the ground in a sunny spot, and the tops syringed or shaded for a short time to prevent flagging. A little bottom heat in a bed, with the tops fully exposed, helps to fill the pots with roots, and that is the chief element of success.—R. F.

COVENT GARDEN MARKET.—SEPTEMBER 1.

THERE has been a tolerably good supply of wall fruit during the past week, with the exception of Green Gage Plums, which are now almost over. Apples are plentiful; and Pears consist of Beurré d'Amanlis, Louise Bonne de Jersey (both from Jersey), Bon Chrétien, and Jargonelle.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	2	0	3	0	Melons each	2	8	5	0
Apricots doz.	2	0	4	0	Nectarines doz.	4	0	8	0
Cherries lb.	0	0	0	0	Oranges 100 lb.	10	0	20	0
Chestnuts bush.	0	0	0	0	Peaches doz.	8	0	12	0
Currants sieve	5	0	6	0	Pears (dessert) doz.	1	0	8	0
Black do.	5	0	8	0	Kitchen doz.	0	0	8	0
Figs doz.	1	0	4	0	Pine Apples lb.	3	0	5	0
Filberts lb.	0	6	1	0	Plums ½ sieve	7	0	0	0
Cobs 100 lbs.	0	0	0	0	Quinces ½ sieve	0	0	0	0
Gooseberries quart	0	4	0	0	Raspberries lb.	0	6	0	0
Grapes, Hothouse, lb.	3	0	5	0	Strawberries lb.	0	0	0	0
Lemons 100	6	0	10	0	Walnuts bush.	6	0	8	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes each	0	2	0	4	Leeks bunch	0	3	0	0
Asparagus bundle	5	0	8	0	Lettuce per score	1	0	1	6
Beans, Broad, bushel	5	0	0	0	Mushrooms pottle	1	6	2	6
Kidney ½ sieve	2	0	3	0	Must. & Cress, punnet	0	2	0	0
Beet, Red, doz.	2	0	3	0	Onions, doz. bunches	4	0	6	0
Broccoli bundle	1	0	1	6	Parsley ½ sieve	2	0	0	0
Brus, Sprouts ½ sieve	0	0	0	0	Parsnips doz.	0	9	1	6
Cabbage doz.	1	0	2	0	Peas per quart	0	9	1	3
Capecums 100	0	0	0	0	Potatoes bushel	2	0	4	0
Carrots bunch	0	4	0	6	Kidney do.	3	0	6	0
Cauliflower doz.	2	0	6	0	Radishes doz. hands	0	6	1	0
Calery bundle	2	0	3	9	Rhubarb bundle	0	4	0	8
Cucumbers each	0	4	1	0	Savoy doz.	0	0	0	0
Mocking doz.	0	0	0	0	Sea-kale basket	0	0	0	0
Endive doz.	2	0	0	0	Shallots lb.	0	8	0	0
Fennel bunch	0	8	0	0	Spinach bushel	2	0	3	0
Garlic lb.	1	0	0	0	Tomatoes per doz.	2	0	4	0
Herbs bunch	0	3	0	0	Turnips bunch	0	4	0	6
Horseradish bundle	2	6	4	0	Vegetable Marrows dz.	0	9	1	0

TRADE CATALOGUES RECEIVED.

Charles Turner, Royal Nurseries, Slough.—*Catalogue of Bulbous Flower Roots and Tulips.*

R. Parker, Exotic Nursery, Tooting, S.—*Catalogue of Stove, Greenhouse, and Hardy Plants, Fruit Trees, Hyacinths, &c.*

Sutton & Sons, Reading.—*Catalogue of Bulbous Flower Roots, Geraniums, Fuchsias, and other Plants, Fruit Trees, &c.*

TO CORRESPONDENTS.

•• We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.

"COTTAGE GARDENER'S DICTIONARY" (R. S. F.).—It is true that the name of "G. W. Johnson" appears on the title page, but he is not responsible for any edition beyond the earliest. The copyright belongs to the publisher, and over it Mr. Johnson has no control; he regrets, as you do, that "the old edition of 1863 is as good and as far advanced as that of 1865."

LABOUR REQUIRED FOR A GARDEN (A Reader).—You will require a gardener and a young man or active labourer to keep in good order a conservatory 24 feet by 23, two vineries 18 feet by 18, Peach-house 31 feet by 14, stove 23 feet by 9, frame 30 feet by 8, kitchen garden 83 yards square and flower garden 40 yards square, which last takes three thousand bedding plants annually, all propagated.

IMPROVING A LAWN TREATED WITH COAL ASHES (A Subscriber from the Beginning).—Unless a lawn was hopelessly overgrown with moss we would not recommend coal ashes for it; but as you say they are in the way, it would be better to scratch them up with a garden rake and sweep them off. Then sift a little fine mould, and mix it with proper grass and Clover seeds, say one part seeds to ten or twenty of soil, and sow this over the ground. After sowing roll the seed in, and if birds are likely to pick them out sow some soot over all. There is no better time than the present for sowing grass seeds, and most likely your lawn will be much improved by this simple process.

THIN-ENDED CUCUMBERS (A. R. L.).—The thin ends of your Cucumbers are not caused by your mode of heating. We think that the Cucumbers wanted more water or more rich top-dressings. Why not have planted them in the bed instead of in the boxes? The boxes would do well enough, only you must give richer soil and top-dress frequently. We presume you have means for letting up the heat into the atmosphere of the house from the flue. You might make a tank at the side of the flue or over it. For your other pit we think a small tank covered with slate would be the cheapest, with reversed turf laid on the slate before you place your soil on it; or, better still, place 4 inches of rubble on the slate below the turf. We are sure, however, you may succeed with your flue. Make the trough 2 feet wide, and 6 inches deep.

HEATING A VINERY (J. B.).—The two four-inch pipes along the front of a house 180, by 14, by 7½ feet, will keep it safe, but it will not help you to force the Vines much. We have tried most boilers, and if well set and well managed we do not think there is much difference in them as to total results. In such a large house, 180 feet long, there is not much gained by having the boiler inside, unless you shut it off from the house. Tubular and cylindrical boilers are best fed at the top, though they can be fed from below the same as a saddle boiler. Take care that the top of your boiler is lower than the lowest pipe in the house. We cannot say what would be the price of a tubular boiler to suit you; but in case you should want more heat we would recommend a cast-iron cylinder boiler 26 inches in height and 23 or 25 inches in diameter, which will cost about £8 10s.; or a cast-iron saddle-back, 30 inches long, 24 inches wide, and 23 inches high, which will cost about £1 less. Good piping will cost about 3s. 6d. per yard. You could place the boiler at one end as you propose, but we would prefer having it in the middle and a glass partition, so that you could have three pipes in one half, and heat it independent of the other.

RIDDELL'S BOILER (A. B.).—We have no doubt Riddell's boiler will suit you, and so would a small cast-iron saddle-back for about £3 10s. We would make the small Vine-border inside, plant there, and make a border outside at our leisure. Your proposed piping of one four-inch pipe round a house 14 feet by 8, will keep up a heat of from 40° to 45° in all except the most severe weather.

HEATING A SMALL PIT (Ardent Lover of Flowers).—Your single flue will be sufficient for your purpose, but then you must make a fresh chimney at the end of the pit. Even then you should have openings to let the heat up into the house. This, as far as we recollect, was alluded to in the last volume, and is very easily done.

FUCHSIA FLOWER-BUDS DROPPING (R. H. S.).—What is puzzling is, that Camellias bloom so well, and Fuchsias bloom drop. Are your plants the plants are damp enough? Before we altered the glass we would dab it all over with thin whitening, made of whitening and milk, and see what that would effect. Put it on outside during a bright day. That will help to let you know if the dark-fused glass occasions the mischief.

GRAPES IN MUSLIN BAGS (F. G.).—Your gardener is quite right in putting muslin bags over the bunches of ripe Grapes. It prevents wasps and flies injuring the berries.

COMTE DE ZYANS STRAWBERRY.—"I beg to state that Comte de Zyans Strawberry can be had true to name from Mrs. Nicholson, Eaglescliffe, Yarm (widow of the late Mr. J. W. Nicholson), and I can fully corroborate all that Mr. Laursen has said in its praise.—ROBERT DONKIN."

NAMES OF FLOWERS (Poor Man).—The petals of the Geraniums had all fallen off, but if they had remained on no judgment could have been formed of them from such scraps. The Calceolarias seem both alike, and of the commonest yellow variety, Aurea floribunda.

GRAPES SMALL (A Combrion).—The cause of the berries being no larger than Currants is their not having set. They will, consequently, be stoneless. To make sure of the Mill Hill Hamburg and Sweetwater setting well in a cool house, it is necessary to run the hand lightly over the bunches whilst in flower. You are doing right to give air at night; but it would be well to discontinue fire at night, and employ it by day only.

SAVING MIDWINTER SEED (Presbyter).—You must pick the pods as they become ripe, going over the plants frequently on dry days for the purpose, and place them thinly on paper in a dry place, rubbing out the seeds when the pods are thoroughly dry.

LAURELS DYING OFF UNDER TREES (H. D.).—We have some in the same state, the old branches dying off and fresh ones coming from the bottom. It is from the dryness and poorness of the ground. You could not improve them by destroying the trees which overshadow them, and we would advise you to replace them with Aucubas. We have done so, and find these grow well where Laurels will not succeed.

STEPHANOTIS FRUITING (W. H. B.).—It is rather unusual for the Stephanotis floribunda to fruit, but some places where it has done so you will find referred to in Vol. V. New Series, pages 371, 410, 448, and 469. We have seen plants from seed saved in this country; they had the midribe of the leaves red, and flowered when six years old, but were not different from the parent, with one exception, in which the plant was of less vigorous habit, and had flowers of a bluish colour. You would by sowing the seed have a chance of obtaining something deviating from the species either in habit or bloom. You will bloom the seedlings much sooner by grafting them on stocks of the old plant, otherwise you may wait years for their flowers.

DESTROYING WEEDS ON WALKS (J. W.).—Choose a dry period, and water the walks with the following solution—2 lbs. powdered arsenic dissolved in six gallons of cold water, boil, and keep stirring until well mixed; then add twelve more gallons of water, and 4 lbs. crushed soda, stirring well until it boils. Apply to the walks by a watering-pot with a rather fine rose. Care should be taken to keep the hot liquid from the grass or Box edging, by placing an inclined board to throw the water off on to the walk. The quantity above named is sufficient for 50 square yards of walk. If applied during dry weather from March to May it will keep the weeds under the greater part of the season.

TROPICOLUS SEEDLING (G. G.).—Your Tropicolus is bright in colour, but very deficient in form. We have seen much better seedlings this season—very superior to those enclosed.

RENOVATING A MULBERRY TREE (A. K.).—We apprehend the fruit would neither fall nor be small if you were to give in autumn a top-dressing under the tree of 8 inches thick of half-decayed manure, extending from the stem to the outside of the branches. Let it remain until March, and then point it in. During dry weather in summer give a thorough soaking of liquid manure.

PROTECTING A VINE-BORDER (Willing to Learn).—The cheapest plan is to procure some spars 3 inches by 2½, and three-quarter-inch deal boards. The spars should be a foot or more longer than the width of the border, and the boards 11 inches wide. These should be well coated with boiling coal or gas tar, which will greatly add to their durability. The border should be covered with litter or dry leaves, and to a greater depth next the house than in front, so that the surface may slope towards the front of the border. The spars should be put with one end on the wall, and the lower side level with the front wall plate, and nailed to maintain them in their places, the lower end resting on a brick. They should be placed 3 feet apart, narrow side upwards, and on them the boards should be laid. Commence at the bottom, and let each overlap that below it to the extent of three-quarters of an inch. A nail at both ends of the boards will maintain them in their places. If they are sound and have a sufficient incline they will render the border waterproof. All you need besides is a spout in front to carry off the water. The boards will last a dozen years and still be sound, if coated every third year with gas tar.

PLUMS, PEARS, AND CHERRIES FOR A NORTH-WEST ASPECT (S.).—You may have of Plums—Pond's Seedling, Victoria, Green Gage, Yellow Imperatrice, July Green Gage, Orleans, Winesour, Drap d'Or, Coc's Late Red, and Blue Imperatrice. Of Pears—Alexandre Lambré, Beurré de Caplaumont, Colmar d'Été, Flemish Beauty, Knight's Monarch, Prince Albert, Thompson's, and Vicar of Winkfield. Of Cherries, besides Morello, Belle Magnifique, Belle de Choleis, Empress Eugénie, Coc's Late Carnation, Kentish, Royal Duke, May Duke, and Ohio Beauty.

PEACHES AND NECTARINES ON A SOUTH-EAST ASPECT (Idem).—Your situation being dry, warm, and sheltered, we think Peaches and Nectarines would grow and do fairly on a south-east aspect.

SULPHUR AND LIME WASH (C. P.).—It should be applied in the evening, the water being heated to a temperature of 130°, or it may be applied cold, but it is more efficacious hot.

CURRENT SHOOTS BLACK INSIDE (J. H.).—The shoots having the centre black are all right if the leaves are healthy.

NAMES OF PLANTS (J. T. B., Stigo).—It is impossible to name a Geranium—there are hundreds nearly alike—from such a scrap. The other morsel you sent seems to be a tip of the Club Moss, *Lycopodium clavatum*. (J. J. T.).—The tree of which you enclosed leaves is the *Salisburia adiantifolia*, or Maiden-hair-leaved. It is not very uncommon. There is a good specimen in the Chelsea Botanic Garden. (A. R.).—*Celastrus*. (G. S.).—Your plant is one of the *Asclepiades*, *Oxyptotum Bankii* (?) If you can spare the room, we would advise you to keep it, and when it flowers send it to us again. (Beginner).—1, *Fallica adiantifolia*; 2, *Pteris cretica albo-lineata*; 3, *Pteris tricolor*; 4, *Scopolopodium officinarum*; 5, *Adiantum cuneatum*; 6, *Isoplepis grandis*; 7, *Belarginella hortensis*; 8, *Begonia spatulata*; 9, *Begonia*, insufficient for determination.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending September 1st.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. sp.	2 ft. sp.			
Sun... 26	29.904	29.888	79	58	64	60½	S.	.81	Slight rain; clearing; very fine throughout.
Mon... 27	29.886	29.748	76	49	65	61	W.	.00	Cloudy and fine; very fine with dry air; rather cold.
Tues. 28	29.597	29.410	70	47	65	61½	S.	.06	Dusky clouds; slight rain; overcast and cold.
Wed. 29	29.310	29.304	68	50	61	61	W.	.90	Rain; cold and constant rain; heavy rain in the evening.
Thurs. 30	29.775	29.583	60	40	60	60	W.	.02	Cloudy, cold, and rather boisterous; overcast, boisterous and cold.
Fri. 31	29.869	29.719	77	44	60	60	S.W.	.00	Very fine throughout, but cold at night.
Sat. 1	29.855	29.768	70	49	59½	59½	S.W.	.06	Fine; low scattered clouds; very fine; rain at night.
Mean	29.747	29.637	71.36	47.86	62.07	60.50	..	1.03	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

VULTURE HOOKS.

SURELY "F. C." must have seen many cockerels weak at the hook joint, that never had any tendency to vulture hooks. Weakness in this joint could never produce vulture-hook feathers, so that I would say to the question, whether, "vulture hooks, like a cat-hooked horse, were not a sign of, or resulting from, weakness in the leg-joints?"—Most decidedly not.

On the day of hatching I could tell "F. C." whether a Brahma or Coochin chick would be vulture-hooked or the reverse. Weak joints, at any rate at the hook, depend very much on a want of strength adapted to the increasing weight. If the legs once begin to give at the knees, and the bird should at the same time lay on flesh rapidly, nothing can save the knees becoming weak; but when this has occurred in a naked-hooked bird, no person has ever seen vulture hook "result" from it.

The most marked case of vulture hook I ever saw, I picked up accidentally just twelve years ago last month—viz., July, 1864. Now, as Cockerels were unknown in this country in 1846, at least we may presume so, as at the show in May, 1845, none appeared in the class for Asiatic breeds, we have, if I may so term it, a Coochin life of twenty-one years, or at the furthest twenty-two years in this country. Yet twelve years ago—more

than half the age—is to be considered "recent introduction." So, also, the attempt at the second London show, I presume, must be considered "recent." However, if we are to have a poll, as Mr. B. P. Brent suggests, the "judge" has obtained a vote in "F. C."

I may here correct an error in my former letter, either my own or the printer's. I am made to say the "Gwynne Cockerels and Sturgeon Cockerels," instead the "Gwynne Brahmas," &c. I possessed birds of each of these gentlemen, and this I can aver, that they were not naked-hooked.—Y. B. A. Z.

WOODBIDGE POULTRY SHOW, AND A POULTRY PROTECTION SOCIETY.

It is all very well for "ONE OF THE COMMITTEE" of this Show to say that the Secretary has been applied to many times to call a meeting to have all matters "settled up." It is the duty of the Committee themselves, as you say, to satisfy those whose birds were either prizetakers or sold. Pray who is the person dignified in the schedule with the title of Chairman of the Committee? Surely this fixed office implies some authority. Let the Chairman of the Committee, or the Committee themselves, publish some satisfactory account of their proceedings, and pay their just debts. Until this is done, they will all stand in the same disrepute. I can tell them that some, and probably all, of the Patrons of the Show are as much

annoyed that their names have been printed in connection with this Committee as the subscribers and exhibitors are disgusted with the manner in which their money and their birds have been neglected. Without some explanation, both patrons and exhibitors will be difficult to obtain another year.

Your correspondent "ESOCR" in reference to a Poultry Protection Society, remarks "I had personally good cause to complain of some very suspicious dealing on the part of a well-known name about two years ago, and the same person has, I find, been acting with other amateurs in a manner the reverse of straightforward." He does not tell us in what direction he points this remark. I should not be surprised if one, or more, of these persons have not tried some tricks upon me, as I have had one or two narrow escapes. I shall, therefore, be very glad to subscribe to any Poultry Protection Society that may be formed. My object is to do right and to expose wrong.—**RESIST AND WRONG.**

I SHALL be glad to subscribe to get up a Mutual Protection Society if it can be done, for I am sure it is needed. In the spring I wrote to a Game-Bantam fancier, who lives not a hundred miles from Leeds, for a sitting of eggs; the result was they were all bad. My firm opinion is that they were boiled. I wrote and told him, and he never answered my note.

At the same time a gentleman from Halifax sent me a sitting; most of these were bad. I wrote and told him; he expressed his regret, and most handsomely gave me another sitting, which were all good. I expect I shall meet my Leeds friend some day ere long, and then he will hear my opinion of him.—**HOWARTH ASHTON, Polefield, Prestwick.**

P.S.—My poultry man says the first individual wants his "tête" punching.

MEIGLE POULTRY SHOW.—AUGUST 29TH.

LAST year was a most successful commencement for a provincial show of poultry. There were many specimens equal to or surpassing those at most of the great exhibitions of the day, and therefore it was much to the credit and encouragement of the Association to find that the list of entries for this year was even in advance of the numbers on the previous occasion. These, too, included specimens from competitors far and near, as will be sufficiently seen from the prize list; and not only was there such a generality, but the names were those well known in this department as breeders of first-class birds. The advancement was very noticeable in several classes, especially in that for the young *Dorkings* and young *Game*, where the first places were held by Mr. P. W. Ogilvy, and also in *Game Bantams*. A new and additional attraction to the Show were the prizes for the best pens of six chickens for table use, and in this class some fine lots were shown. There was also much individual excellence in young *Spanish*, but unluckily the superior individual birds were not found in the same pens. The *Geese* were as good as last year. As to single pens, it will be seen that the silver challenge cup presented last year to the Society by Admiral Popham for old birds, and that presented since then by the Hon. Mrs. Arbuthnot for young birds, were both carried off by pens of *Dorkings*. The former cup was again won by the Hon. Mrs. Arbuthnot, whose *Dorkings* were very fine, though of course bearing indifferent plumage at this season of the year. The cup presented by that lady was, however, won by Mr. P. W. Ogilvy, for his young *Dorkings*, and in that pen the pullets were very fine indeed, and the cockerel promised to be very superior—although the pullets in the second-prize pen were not inferior. The Judges of the Poultry were—Mr. Hedpath, Edinburgh, and Mr. Brown, Perth, and these gentlemen made the following awards:—

GAME.—First, Hon. Mrs. Arbuthnot, Inchmartine. Second, R. Swift, Notts. *Chickens*.—First, P. W. Ogilvy. Second, J. M'Nab, Barrhead. Third, P. W. Ogilvy.

DORKINGS.—First and Challenge Cup, Hon. Mrs. Arbuthnot. Second, P. W. Ogilvy. Third, Hon. Mrs. Arbuthnot. *Chickens*.—First and Challenge Cup, P. W. Ogilvy. Second, Hon. Mrs. Arbuthnot. Third, P. W. Ogilvy.

COCHIN-CHINA.—First, Hon. Mrs. Arbuthnot (Buff). Second, H. Yardley Third, A. Crobbie, Melrose. *Chickens*.—First, W. Henry, Aberdeen. Second, Hon. Mrs. Arbuthnot (Buff). Third, Miss Soutar, Airlie.

SPANISH.—First, J. Kair, Scone. Second, A. Cochrane, Perth. Third, Hon. Mrs. Arbuthnot. *Chickens*.—First, Mrs. Anderson, Meigle. Second, Mrs. Robertson, Belmont.

HAMBURG.—First, J. Whitton, Ruthven. Second, J. Wilkie, Cortachy. *Chickens*.—First, Duke of Newcastle. Second, G. Edwards, Aberdeen.

BANTAMS.—First *Chickens*.—First and Second, P. W. Ogilvy. Third, R. M'Gregor, Perth.

ANY OTHER VARIETY.—*Chickens*.—First, Mrs. White (Crève Cœur). Second, Hon. Mrs. Arbuthnot (Dark Brahmas). Third, D. Gallatly (Houdan).

DUCKS.—First, Hon. Mrs. Arbuthnot (Rouen). Second, R. Forsyth (Aylesbury). Third, P. W. Ogilvy. *Ducklings*.—First, P. W. Ogilvy. Second and Third, Hon. Mrs. Arbuthnot (Rouen, Aylesbury).

GESE.—First and Second, Hon. Mrs. Arbuthnot (Toulouse, Normandy). Third, Mrs. Davidson.

TURKEYS.—First, P. W. Ogilvy. Second, Hon. Mrs. Arbuthnot (Improved Cambridge). Third, Mrs. Kidd, Balmachrean.

ANY BAKER.—First, Mrs. Robertson (Spanish). Second, D. Gallatly (Game). Third, Mrs. White, White (Duckwing Game Bantams).
ANY BAKER.—First and Second, D. Gallatly (Cochin-China). Third, W. Simpson, Cardan (Dorkings).
ANY BAKER.—First, P. W. Ogilvy. Second, Mrs. Kidd, Balmachrean. Third, Mrs. Robertson.
ANY BAKER.—First, P. W. Ogilvy. Second, Mrs. Barclay, Simprim. Third, Mrs. Tait, Meigle.—(Dundee Advertiser).

DEWSBURY POULTRY SHOW.

THIS took place on the 29th ult., at Savile Town, near Dewsbury, and had it not been that the weather was extremely unfavourable it would have proved the most successful meeting ever held here. The entries were more numerous than on any previous occasion, in almost all classes, and the competition keener.

CUP (best pen in Exhibition), J. Threshby, Bradford.
COCHIN-CHINA.—First, C. W. Brisley, Middleton. Second, H. Belden, Bingley. *Chickens*.—First, C. Sedgwick, Kighley. Second, T. Vickerman, Chickensley.

SPANISH.—First, J. Threshby, Bradford. Second, H. Belden. *Chickens*.—First, J. Newton, Silsden. Second, T. Greenwood, Dewsbury.

DORKING.—First, J. Tyrril, Beaumont, Huddersfield. Second, H. Belden. *Chickens*.—First, E. Leech, Rochdale. Second, H. Belden.

BRAMA POOTRA.—First, J. H. Pickles, Bridgeroyd. Second, G. R. Roberts, Preston. *Chickens*.—First, E. W. Boyle, Ireland. Second, J. H. Pickles.

GAME (Black Reds).—First, H. Belden. Second, G. Noble, Staincliffe. *Chickens*.—First, W. Fell, Adwalton. Second, G. Noble.

GAME (Brown Reds).—First, H. Belden. Second, J. Byrom, Lancashire. *Chickens*.—First, J. Ineson, Staincliffe. Second, H. Belden.

GAME (Duckwing and other Greys and Blues).—First, W. Fell. Second, H. Belden. *Chickens*.—First, W. Fell. Second, — Spedding & Senior, Chickensley.

GAME (White and Piles).—*Chickens*.—Prize, H. Belden.

GAME (Black and Brassy-winged, except Greys).—First, G. Noble. Second, J. Ineson. *Chickens*.—Prize J. Ineson, Great General.

HAMBURG (Golden-spangled).—First, J. Walker, Knaresborough. Second, H. Belden.

HAMBURG (Silver-spangled).—Prize, H. Belden.

HAMBURG (Golden-pencilled).—First, Mrs. Holmes, Halifax. Second, A. K. Wood, Kendal.

HAMBURG (Silver-pencilled).—First, J. Walker. Second, H. Belden.

HAMBURG (Black).—First, C. Sedgwick. Second, H. Belden.

POLANDS (Gold and Silver-spangled).—First and Second, H. Belden. *Chickens*.—First, H. Belden. Second, T. E. Kell, Wetherby.

POLANDS (Any other variety).—Prize, H. Carter, Holmfirth.

BANTAMS (Black).—First, Miss G. Ridgway, Dewsbury. Second, S. Schofield.

BANTAMS (White).—First, S. Schofield. Second, E. Hutton, Pudsey.

GAME BANTAMS.—First, G. Noble. Second, W. Newsome, Leeds.

GAME COCK (Any variety).—First, J. Mason, Worcester. Second, J. Hodgson, Bradford. *Hen*.—First, G. Noble. Second, T. Dyson, Halifax.

DUCKS (White).—First, E. Leech. Second, J. K. Fowler, Aylesbury.

DUCKS (Rouen).—First, W. Newsome. Second, F. Horsfall, M.D., Pontefract.

DUCKS (Any other variety).—First, E. Hutton, Pudsey. Second, J. K. Fowler.

RABBITS (Lop-eared).—*Duck*.—First, F. Mosey, Leeds. Second, E. Brooke, jun., Huddersfield. *Doe*.—First, F. Mosey. Second, W. Newsome, Pair for colour. First, F. Horsfall. Second, E. Brooke, jun. *Weight*.—First, E. Brooke, jun. Second, J. E. Crowther, Dewsbury.

PIGEONS.

POWTER.—*Cock*.—First, E. E. M. Roys, Rochdale. Second, J. Thackray, York. *Hen*.—First, J. Thackray. Second, E. Horner, Harewood.

CARRIER.—*Cock*.—First, E. Horner. Second, J. Firth, jun., Dewsbury.

HEA.—First, E. E. M. Roys. Second, E. Horner.

TUMBLERS (Almond).—First, E. E. M. Roys. Second, J. Thackray.

TUMBLERS (Any other variety).—First, C. Cowburn, Leeds. Second, E. E. M. Roys.

TURBINS.—First J. Thackray. Second, E. Horner.

JACOBINS.—First and Second, E. Horner.

TRUMPETERS.—First, J. Thompson, Bingley. Second, E. Horner.

OWLS.—First, J. H. Pickles, Bridgeroyd. Second, J. Fielding, jun., Rochdale.

BARBS.—First, J. Firth, jun. Second, J. Thompson.

FANTAILS.—First, J. Thackray. Second, C. Cowburn.

NUNS.—First, J. Thackray. Second, J. Thompson.

PIGEONS (Common).—First, T. Watson, Thornhill. Second, J. Vickerman.

ANY OTHER VARIETY.—First, J. Thackray. Second, H. Yardley, Birmingham.

SWANSEA POULTRY, PIGEON, RABBIT, AND BIRD SHOW.

THE Exhibition was held in a yard adjoining the Music Hall, on Thursday, the 23rd ult., in connection with a Fruit and Flower Show. The entries were not numerous, but some good specimens were exhibited. The following are the awards:—

DORKINGS.—First and Second, G. Lewis, Carmarthen.

SPANISH (Black).—First and Special, T. Ace, Ystalyfera. Second, J. Butler.

COCHINA.—First, T. Ace. Second, G. Lewis.

HAMBURGERS.—First, withheld. Second, — Milroy.

GAME.—First and Second, G. Lewis.

BANTAMS.—First, J. Butler. Second, W. Crapper. Highly Commended, W. Nettle.

FOR THE BEST PEN OF PULLETS.—First and Extra, T. Ace (Spanish and Buff Cochins).

DUCKS (Aylesbury).—First, W. E. Walcup, Rheda. Second, Sergeant Green, Swansea.

DUCKS (Romen).—Prize, E. M. Savours, Briton Ferry Road.
Pigeons.—*Carriers.*—Prize, J. Butler, *Pouters.*—Prize, J. Butler. Highly Commended, J. Pugsley. *Jacobins.*—First, W. Crapper. Special and Highly Commended, J. Butler. *Tumblers (Almond).*—First, D. Evans. Special, T. Evans. *Fantails.*—Prize, W. Phillips, Swansea.
RABBITS (Lop-eared).—First, Sergeant Green. Second, W. Crapper.
RABBITS (Common).—Prize, Harding.
CANARIES.—First, J. Griffiths. Second, Sergeant Green.
GREY PARROT.—Prize, J. Harris.
GREEN PARROT.—Prize, W. Crapper.

The Judges were Mr. J. Savours and Mr. Woolley.

COTTINGHAM POULTRY SHOW.

(From a Correspondent.)

THE annual Exhibition of Poultry and Pigeons was held on the 29th August, and, as regards numbers of entries, far exceeded those of former years, while in many of the classes it was a matter of great difficulty for the Judges to decide upon the respective merits of the various pens: so much so, that in several cases they placed two pens on an equality, and awarded an "equal" first, or an "equal" second; but, as the authorities would have us to understand it, they bestowed these extra favours to the specimens thus honoured with a very misguidedly hand, as instead of either competitor receiving the full value of the prize, it was to be divided equally between the two!—which is certainly a new idea, and it is very doubtful whether either one or both of the successful parties cannot legally claim the amount offered in the schedule for those classes. However this may be, another year it will be well to avoid such a cause of dispute, and one way of doing so will be to restore the class for Romen Ducks, and not to leave these and a host of other Ducks to compete together for the prizes.

F. Ferguson, Esq., of Risby Park, and Mr. D. Pickering, of Hull, officiated as Judges. The following is believed to be a list of their awards; but no catalogues being printed it was difficult for even the Secretary to find to whom the birds belonged.

SPANISH.—First, G. Hoyle, Hessle. Second, M. Robinson. *Chickens.*—First and Second, J. H. Rea.

DORKINGS.—First, W. Watson, Bishop Burton. Second, G. Holmes. *Chickens.*—First, Mankin. Second, W. Watson.

COCHINS (Any variety).—First, J. Hatfield. Second, T. C. Trotter, Saffron. *Chickens.*—First, H. Taylor, Newland. Second, W. Charter, Driffield.

GAME (Black-breasted and other Reds).—First, W. Naylor. Second, G. Holmes. *Chickens.*—First, O. A. Young, Driffield. Second, G. Holmes.

GAME (Any other variety).—First, J. Hodgkinson, Hull. Second, W. Charter. *Chickens.*—First, J. Hodgkinson. Second, O. A. Young.

POLANDS.—First, J. W. Proctor (White-crested Black). Equal Second, J. Beecroft and O. A. Young. *Chickens.*—First, J. M. Proctor. Second, J. Cross.

HAMBURGERS (Golden-spangled).—First, J. M. Blanchard. Second, G. Holmes. *Chickens.*—First, J. Blanchard. Second, G. Holmes.

HAMBURGERS (Golden-pencilled).—First, A. Hume. Second, R. Robson. *Chickens.*—Second, G. Holmes.

HAMBURGERS (Silver-spangled).—First, J. Blanchard. Second, O. A. Young. *Chickens.*—First, J. Jennings. Second, R. Cooke.

HAMBURGERS (Silver-pencilled).—First, R. Robson. Second, G. Holmes. *Chickens.*—First and Second, S. Holmes.

BANTAMS (Gold-laced).—First, T. C. Harrison, Hull. Second, J. Marshall. *Chickens.*—First, R. Smith, Malton. Second, O. A. Young.

BANTAMS (Game).—First, R. Voakes. Second, T. Holmes. *Chickens.*—First, J. Blanchard. Second, R. Smith.

BANTAMS (Any other variety).—First, J. R. Jessop (Black). Second, T. C. Harrison (Silver-laced). *Chickens.*—First and Second, J. R. Jessop (White and Black).

ANY OTHER DISTINCT VARIETY.—First, R. Loft, Woodmansey (Sultans). Second, J. Hodgkinson. *Chickens.*—First and Second, R. Loft.

FARMYARD CROSS.—First, R. Loft. Second, J. Robinson. *Chickens.*—First, J. Coverdale. Second, Mrs. Robinson.

SELLING CLASS.—First and Second, R. Loft.

GEES.—First, O. A. Young. Second, Mrs. Nicholson.

DUCKS (Aylesbury).—First, O. A. Young. Second, F. Key, Beverley.

DUCKS (Any other variety).—Equal First, T. C. Harrison and O. A. Young (Mandarins and Rouens). Equal Second, Mrs. Morris and J. R. Jessop (Rouens and Summer Teal).

SINGLE-CK CLASS.

SPANISH.—First, T. C. and E. Newbitt. Second, G. Holmes.

DORKINGS.—First, J. Hatfield, Cottingham. Second, G. Holmes.

COCHINS (Any variety).—First, T. C. Trotter. Second, J. Hall.

GAME (Black-breasted and other Reds).—First, J. Hatfield. Second, J. Hanson.

GAME (Any other variety).—First, W. Drewry. Second, W. Charter.

POLANDS.—First, J. M. Proctor.

HAMBURGERS (Golden-spangled).—First, O. A. Young. Second, G. Holmes.

HAMBURGERS (Golden-pencilled).—First, G. Holmes. Second, J. Hall.

HAMBURGERS (Silver-spangled).—First, G. Holmes.

HAMBURGERS (Silver-pencilled).—First, S. Holmes. Second, R. Voakes.

BANTAMS (Gold-laced).—First, T. C. Harrison. Second, J. Marshall.

BANTAMS (Game).—First, W. Scott. Second, T. C. Harrison.

BANTAMS (Any other variety).—First, J. R. Jessop (Black). Second, Miss Bright (White).

ANY OTHER DISTINCT VARIETY.—First, R. Loft. Second, T. C. Trotter.

FARMYARD CROSS.—First, G. Robinson. Second, W. Charter.

SELLING CLASS.—First, R. Garding. Second, R. Loft.

PIGEONS.

GRAPHERS.—First, H. Yardley, Birmingham. Second, W. Watson, Beverley.

CANARIES.—First, H. Yardley. Second, W. Barratt, Hull.

TUMBLERS.—First, B. Leason, Driffield. Second, G. H. Pickering, Driffield.

TRUMPETERS.—First and Second, F. Key.

JACOBIANS.—First, T. Ellington, Woodmansey. Second, T. C. & E. Newbitt.

FANTAILS.—First, T. Ellington. Second, C. Cousins, Hull.

DRAGONS.—First, H. Yardley. Second, W. Beecroft.

TUMBLERS.—First, C. N. Lythe, Cottingham. Second, J. R. Jessop.

BARDS.—First, H. Yardley. Second, W. Barratt.

NUNS.—First, C. N. Lythe. Second, B. Leason.

ANY OTHER VARIETY.—First, T. Statters (Frillbacks). Second, J. R. Jessop (Runts).

SPECIAL PRIZES (by W. Boulton, Esq., for best Carrier Hen).—Prize, R. Bellamy, Leven.

TUMBLERS (Mottled).—Prize, C. N. Lythe.

RABBITS (Any variety).—First, O. A. Young.

HASTINGS, ST. LEONARDS, AND EAST SUSSEX POULTRY EXHIBITION.

(From a Correspondent.)

THE first Show of the Hastings, St. Leonards, and East Sussex Poultry Society, was held in Warrior Square, August 29th and 30th, in conjunction with the annual Flower Show.

The Show was entirely for birds of the year, and 123 pens of poultry were exhibited. These were shown in Turner's pens. In *Dorkings*, the silver cup was awarded to the Duke of Newcastle, Mr. Lingwood's beautiful pen of White *Dorkings* being second, Dr. Campbell taking third with Greys. *Cochin-Chinas* came next, Mr. Rodbard taking the cup with a splendid pen of Grouse-coloured; Mr. Lingwood second with Buffs, and Mr. Rush, third. In *Game*, Mr. S. Mathews took the cup with Black-breasted Reds; Mr. Jenkins being second and third. One pen was disqualified owing to the sickly state of the birds. *Spanish* were not in such good feather as the other varieties. Mr. Rowe took the cup. Of *Brahmas* there was a strong entry both of Dark and Light. Mr. Lane was first with Dark, and Mr. Ede second with Light. In *Spangled Hamburgs* Mr. Preston was first, and Miss Barter second. In *Pencilled Hamburgs*, Mr. Havers was first, and Mr. Preston second. In the Variety class, the National Poultry Company had it all their own way, taking first and second with very excellent *Houdans* and *Crève Cœurs*, and third with *La Fliche*. In *Game Bantams*, Mr. Manning was first with Piles, and second with Black-breasted Reds. In the any other Bantam class, Mr. E. Hutton was awarded a prize for a very deserving pair of Whites. No other entry. In *Aylesbury Ducks*, the first and third prizes fell to Mr. Fowler, the second prize to Mr. Winham. For other Ducks, the first prize was awarded to Mr. Oliver, for Rouens; second to Mr. Hutton, for White Call; and third to Mr. Fowler, for Black East Indian. *Geese*, first to Mr. Wells, for Pied; second, withheld. In the sweepstakes for *Game cockerels*, Mr. Pope was first with a Black-breasted Red; the Duke of Newcastle second with a Brown Red, and Mr. Mathews third with a Black-breasted Red. Mr. Musters had a Black-breasted Red, and a Pile very highly commended; and Mr. Jenkin's was also commended, the whole being a very good class. A very fine *Malay cockerel* was here shown out of place. Of the Cottagers' poultry, to which it was desired to hold on as much encouragement as possible, there were two pens of *Dorkings*, one was awarded a second prize, the other being a mangrel breed. In the Cottagers' Variety class, Silver *Polands* were first; *Brahmas*, second; *Cochins*, third; *Game*, fourth. Of Cottagers' Ducks, the first were Rouens; second, third, and fourth, Aylesbury.

The Judges were Mr. Nicholson, Mr. Price, and Mr. Brent.

WAKEFIELD POULTRY SHOW.

THE second annual Exhibition of the great West Riding Agricultural and Horticultural Society was held at Wakefield on Saturday, the 1st inst. The poultry, although not numerous, was very choice.

For the best pen of *Game*, the silver cup was carried off by Sir St. George Gore, Bart., with a first-class pen of Brown Reds. In the classes for Reds and Duckwings, the first prizes were awarded to chickens, and in Any other variety of *Game*, Blacks and Piles took the prizes. *Hamburgs* were good. Mr. Beldon obtained most of the prizes with capital birds. *Game Bantams* were one of the best classes, the competition being very keen between Messrs. Newsome and Crossland. The first-prize pen from the former contained a very fine-shaped cockerel, deficient in colour; while the pullet in Mr. Crossland's pen was perhaps one of the best we ever saw.

There was a fine show of *Ducks*, but many pens were indifferently matched. The following is the prize list:—

GAME (Any colour).—Cup, Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire. Second, C. W. Brierley, Rhodes House, Middleton, Manchester. Highly Commended, Sir St. G. Gore, Bart.

GAME (Black-breasted or other Red).—First, J. D. Newsome, Batley. Second, Sir St. G. Gore, Bart.

GAME (Duckwing).—First, J. Bradford, Bradford. Second, Sir St. G. Gore, Bart.

GAME (Any other variety).—First, J. D. Newsome. Second, Sir St. G. Gore, Bart.

GAME (Any colour).—*Pullets.*—First, H. Crossley, Bloomsfield, Halifax.

Second, E. H. Woodcock, Thornhill, Wigan. Highly Commended, H. Beldon, Gottstock, Bingley. Commended, Sir St. G. Gore, Bart.
 DORKING.—First, H. Beldon. Second, J. T. Beaumont, Greenhead House, Huddersfield.
 SPANISH.—First, H. Beldon. Second, J. Thresh, Manchester Road, Bradford.
 COCHIN-CHINA (Any colour).—First and Second, C. W. Brierley (Partridge and Buff). Highly Commended, H. A. Child, Wakefield.
 BRAHMA POOTRA (Any colour).—First and Second, J. Pickles, Bridge-royd, Todmorden.
 POLANDS (Any colour).—First and Second, H. Beldon (Golden and Silver).
 HAMBURG (Golden-pencilled).—First, Sir St. G. Gore, Bart. Second, S. Smith, Northowram, Halifax. Commended, H. Beldon.
 HAMBURG (Silver-pencilled).—First, H. Beldon. Second, A. K. Wood, Burnside, Kendal.
 HAMBURG (Golden-spangled).—First, H. Beldon. Second, Sir St. G. Gore, Bart.
 HAMBURG (Silver-spangled).—First, H. Beldon. Second, Sir St. G. Gore, Bart.
 ANY OTHER DISTINCT BREED.—First and Second, National Poultry Co., Bromley, Kent (La Flèche and Houdan). Highly Commended, H. Beldon (Black Hamburgs).
 BANTAMS (Game).—First, J. D. Newsome. Second, Master J. Crosland, Wakefield. Highly Commended, H. A. Child, Wakefield.
 BANTAMS (Any other variety).—First, F. L. Roy, jun., Nanthorn, Kelso, N.B. (Silver-laced Sebrights). Second, E. Hutton, Pudsey, Leeds (Black).
 DUCKS (Aylesbury).—First, E. Leech, Graves House, Roohdale. Second, O. A. Young, Driffield.
 DUCKS (Bouen).—First, J. White, Whitley, Netherthorn. Second, J. and J. Charlesworth, Dittcar, Wakefield. Highly Commended, Sir St. G. Gore, Bart.
 DUCKS (Any other variety).—First, Sir St. G. Gore, Bart. Second, J. R. Jessop, Beverley Road, Hull.
 EXTRA STOCK.—First, Mrs. Burrill, Sharlestone (Duck with three legs). Second, S. Burton, Dittcar (Bantams).
 The Judges were Mr. Richard Woods, Osberton, Worksop, and Mr. Wm. Cannan, Bradford.

GAME BANTAMS:

POSTANS'S AND RAYNOR'S STRAINS.

MR. POSTANS in his advertisement, contained in your paper of last week, quotes Mr. Crosland's opinion of the cockerels bred by him last year, and states that "all the Black Red Bantams shown with such eminent success last year by the Rev. George Raynor, were bred from birds had direct from Mr. Postans or were their descendants of the previous year." As the purchaser of this celebrated strain of Mr. Raynor's, I beg to state that Mr. Crosland has within the last fortnight seen my stock, and remarked that Mr. Raynor's birds were superior to what he produced last year. With the same amount of pride which naturally moves Mr. Postans, I must say that Mr. Raynor in a great measure attributes his success this year to two hens of my strain, with which he took the cup at the last Manchester show, as well as to eggs of my strain which he had from a friend of mine, a clergyman in Hertfordshire; and I am bound to say that my strain was from the original and pure blood of Mr. Crosland's stock. I am sorry to see that Mr. Postans is giving up a class of birds which have been of such credit to the county of Essex, but I hope with Mr. Raynor's stock and my own to maintain at the next Birmingham show the place occupied last year by Mr. Raynor, and to keep in the county one at least of two very celebrated strains.—GEORGE MANNING, Springfield, Essex.

PIGEONS' SELLING CLASS AT HALIFAX.

At Halifax an exhibitor entered two pens of valuable Pigeons in the selling class, which required that the price should not exceed £1 1s. Now, that exhibitor would not take five times that amount for the birds he showed; but they were claimed through himself previously to the Exhibition, and by this dishonest procedure he took first and second prizes.

Unless the secretaries of shows decline allowing the exhibitor or any one else to claim the birds previous to the judge concluding his awards, whereby the public, one and all, would have a fair chance of claiming anything, or unless something be done to put a stop to this disgraceful proceeding, the selling class will soon dwindle out of sight.—AN EXHIBITOR.

BEE-WRITING EXTRAORDINARY.

THE example of Dr. Cumming, who, with a mere smattering of apianian knowledge, first aspired to instruct the world in bee-culture through the columns of the *Times*, and then ran a muck against every one who ventured to point out and correct any of his very numerous mistakes, seems to have encouraged

magazine writers generally to take up the subject; and we find accordingly that nearly every periodical has recently had one or more articles, in which the changes are rung on bees, bee-hives, and bee-keeping, with greater or less success, according to the assiduity with which the compiler has "read up" his subject, and the amount of information which he has been able to glean in other ways. Of course, under these circumstances we must expect to find most of the old facts and fallacies furnished up, and presenting themselves in their new guise with as much complacency as if they now for the first time saw the light. Accordingly the traditional snail is again discovered, glued either to the window or to one of the sides of the hive; once more is slain that celebrated mouse or huge slug (whichever you please, my little dears!), and again with infinite labour and sagacity do the industrious little insects render its putrescent carcase inoffensive by enshrouding it in a thick covering of propolis; whilst once more, alarmed and terror-stricken, yet standing erect and motionless, Thorley's immortal maid-servant is presented to our view in the unenviable predicament of being made use of as a resting-place by an eccentric swarm of bees. To all these, and such as these, do I bow, smile, and pass on; but when, as in a recent Number of "Chambers's Journal," I meet with an article written by a gentleman so ardent in the pursuit of apianian knowledge, that, as he informs us, he has "often sat up all night" to watch the bees' manœuvres by lamp-light, I make a far lower obeisance than usual, and peruse his lucubrations with the most wrapt attention, in the hope of benefiting at second-hand from the reflected light produced by such an expenditure of the midnight oil. Nor are my expectations disappointed. Here are new facts and discoveries sufficient to set us all thinking, and as I have no wish to be selfish, I invite all the readers of the bee department of "our Journal," to share with me this intellectual banquet.

First, then, I observe, that this illustrious contributor, whom, as he maintains a strict incognito, we may, for convenience, venture to denominate "The Chamber Bee-master," almost invariably speaks of the bee in the masculine gender. It is true he gives us no reason for this; but shall we presume to ask for chapter and verse from such a Gamaliel? No, rather let us sit humbly at his feet and drink in unquestioningly the words of wisdom that flow from his pen. Away, then, with all unworthy doubts; tell me not of the investigations and discoveries of mere bee-keepers and naturalists, from Huber and Mademoiselle Jurine downwards; is not the masculine very ungallantly assumed to be the most worthy gender? and shall I on such slender authority venture to doubt the infallibility of my new-found guide?

Commencing, then, with Samson's swarm, "The Chamber Bee-master" cites divers unsavoury receptacles as having been at different times selected as a habitation by "Master Bee." Among these are a baby's coffin deposited in a vault, a horse's head, the belly of a dead ass, and the vault of a common sewer! But, we are told, that "in spite of" these facts "the bee delights in all kinds of perfumes; and one of the means of coaxing a stray swarm into a hive is to rub the inside of it with balm, and suspend it within reach of their olfactory nerves." But here let me pause to make candid confession of my ignorance, smite my breast, and cry "*Mea culpa!*" Since that I am, I never knew until now that bees affected "all kinds of perfumes." Heretic that I was, I never believed that they could be attracted to a hive by the smell of balm! Nay, worse than this, so little do I know of the herb that I am deeply grateful to Webster's dictionary for informing me that it is "an aromatic plant of the genus *Melissa*." It is true that during more than a quarter of a century I have never lost a swarm, yet what risks may I not have unconsciously run through my want of faith! But is there not balm in Pedlington? Yea, let us hope so, and trust that Mr. Roots will be able to supply such a bundle of plants, or such a packet of seeds, as may absolve me from encountering such desperate hazards for the future.

"Among the rustics of France and England bees are accommodated with very poor habitations furnished with only one entrance." Can I then venture to whisper the humiliating confession that my hives also have "only one entrance," and that here my Mentor leaves me in most distressing doubt? A single entrance is evidently condemned, but the right number is not stated. It may be two only, or one may possibly be required for the separate use of every inhabitant of the hive, those for the queen and drones being, of course, of extra size, or it may be any intermediate number

between these two extremes. Where, then, is the *Œdipus* who can expound this riddle for me?

We all know that Dr. Cumming asserted that bees never worked after four o'clock in the afternoon; but our "Chamber Bee-master" discovered that on very fine nights in June they never lost a moment in sleep, but in double columns kept marching out and in, and that they always "kept their neighbours on the sword-hand, reversing the fashion which prevailed in London when men wore weapons." As it would be impossible, however, for the bee "to persevere in such a course, it occasionally takes a nap in the bells of flowers, where, if particularly weary, it nestles all night, and one of its favourite resting-places is the hollow of the scented geranium, or the spotted cranesbill!"

Seeking publicity in an Edinburgh magazine, and writing professedly on the subject of "Bee-hives," those manufactured at Stewarton, and which have achieved so extensive a reputation, are not only passed over in silence by our "Chamber Bee-master," but we are told that, on the contrary, "people are beginning, through attention to analogy, to prefer the hexagonal shape, which is that of the cells of the comb." Now, it may be remembered that Dr. Cumming declared Stewarton hives to be hexagonal, and after stating that he had found them to "answer best of any," drew from this fact the inference "that the bees, who construct their cells in the form of hexagons, prefer the house in which they work to be of the same shape." On its being pointed out to him that these hives had eight sides instead of six, he was unable to deny the fact, but, willing to retract as little as possible, he still upheld the hexagon as the best shape, although he could give no reason whatever for this opinion beyond the purely imaginary one of a fancied analogy. This, therefore, is the history of these hexagonal hives, which having thus achieved notoriety only by a "fluke," we are now told "people are beginning to prefer," and which must perforce rapidly supersede the well-made and successful Stewartons, when these latter are thus pointedly ignored in a Scottish periodical by so unflinching an oracle.

It seems, also, that we were far too hasty in rejecting the Italian story of bees feeding on oil-cake, since it is here reproduced, and, of course, under such sponsorship none can any longer refuse to receive it.

I have reserved to the last the inestimable suggestions of "The Chamber Bee-master," which, if carefully and consistently carried out, will doubtless raise apiculture to the highest pitch of which it is capable. The first is, that cheap hives should be made "with two storeys divided by a sliding roof," so that "the bees might be admitted into the upper storey by removing the slide as soon as they had filled the lower." The second is, that bee-keepers should dislodge the bees from their habitations without sacrificing the lives of any of the inmates. "This," we are told, "might be done by placing new hives at a short distance from the old ones, and then introducing a pipe into the latter, by means of which they might easily be smoked out." The third is, that hives should be kept in niches formed in walls "to hold twelve, twenty-four, or thirty-six hives, in one, two, or three stages of twelve in each."

I am aware that hard-headed and cold-blooded practical men may urge that there is a plentiful lack of novelty about the first suggestion, this being in some sort admitted and apologised for by the illustrious writer himself; that the second is impracticable as he describes it, and unadvisable if accomplished by any other means; that the mode of keeping bees recommended in the third is so clumsy and inconvenient as to have become almost obsolete even in Devonshire itself; and that the entire contents of the paper are such as to prove that its author possesses only the most superficial knowledge of his subject. A plague on all such strictures! say I. Having probed and investigated nearly to the uttermost all the known facts, do we not now want novelties in the natural history of the bee? and have we not here got them, in company with ancient stories turned inside-out and vamped up, until, like the Jew's second-hand garments, they look almost "better shan new?"—AN OLD BEE-KEEPER.

LIGURIANISED BEES—PLURALITY OF EGGS.

This fine day I observe that many young bees leave the hive, but very few indeed, comparatively, marked like those I sent you, and differing in no respect that I can see from the common bee. Is it possible that the queen breeds both kinds?

In the spring of this year, I frequently examined the combs

of a weak stock and always found a plurality of eggs in the cells most irregularly laid. There were cells with one egg certainly, but all about these there were others with two and three eggs in them. What could have been the cause of this? This stock has much improved of late. The queen is one year old.—EDW. FAIRBROTHER.

[A common queen having had intercourse with Ligurians produces a mixed progeny, some nearly as handsome as pure Italians, many of the ordinary kind, and some intermediate between the two. A prolific queen at the head of a weak stock frequently, or we might even say generally, lays a plurality of eggs in many of the cells, an abnormal condition of things which ceases as soon as the colony becomes prosperous and extends its combs sufficiently to admit of its deriving the full advantage from her marvellous reproductive powers.]

UNITING AND FEEDING BEES.

I wish to take away all the honey of seven hives, and to unite four swarms together, and three swarms together. Will you state the process, the best time of day, and in what place, as fully as time and space will admit? If I keep the troughs of the hives always full of sugar, are the bees likely to survive the winter? and what quantity of beer or water should be mixed with 1 lb. of sugar, and ought it to be boiled? If the bees have not made enough honey from the supply of sugar by the time the cold weather sets in, would it influence their working to keep them in a greenhouse at a temperature of from 50° to 60°? Will the bees interfere with you while performing the operation? What is the best site for bees in winter?—W. BRADLEY, Bromley Road, Beckenham, Kent.

[If you intend putting your expelled bees into frame hives the operation is easy and success nearly certain. Drive the bees during the forenoon of a fine day into common hives, in the manner described in page 59 of the fifth edition of "Bee-keeping for the Many," and it may be as well to drive the first four into four different hives, which should for the time be put in their places on the old stands. The deserted hives should be conveyed in-doors, one by one, as soon as their inhabitants are expelled, the combs cut out, and any stragglers that remain be returned to their brethren. When all four have been operated on, the combs should be carefully dissected, every piece of brood or pollen-laden comb being cut out in a square or other available form, matched together, and fitted into frames, wherein they must be temporarily fastened by means of zinc or tin clips, wire, slips of wood and tacks, or any other means which may occur to you. There will probably be quite sufficient of what would otherwise be waste comb to fill a complete set of frames, which should be put into a hive, and this hive should be surmounted by an empty one of the same size, from which the frames and top board have been removed, placed between it and the crown-board. Convey the whole to its stand in the apiary (which should be as nearly as possible in the centre of the space previously occupied by the four hives), and knock the clusters of bees out of these one after the other as rapidly as possible into the upper hive and on the top of the frames of the lower one, which must be exposed by removing the crown-board. Replace this latter the instant the last lot of bees is knocked out, and leave them to settle matters until the next day but one, when the top hive and all, or nearly all, the artificial supports to the combs may be removed. If any of the latter appear unsafe, their supports should be left until the day following, when all are pretty sure to be safe. This operation may be repeated in a day or two with the remaining three hives. We have framed these instructions on the hypothesis that the bees are your own, and on your own premises. If they are at a distance you may drive them one day, tie them up in cloths and take them home with the brood-combs (which are of course nearly valueless to their owners, but for which you had better make a trifling money payment rather than forego them), in the evening, placing these later in a warm room (say the kitchen), for the night, and complete the operation next morning. If you manage matters properly there is no danger whatever from the bees.

Use no feeding-trough, but an inverted pickle-bottle for each of your newly-formed stocks, which fill every evening until they have stored sufficient food to last them through winter, during which season no feeding should be attempted. We use no beer, but lump sugar and water, in the proportion of 3 lbs. of the former to 2 lbs. of the latter, and boiled a minute or

two. This mixture is so well adapted for the purpose that it really leaves nothing to be desired.

We have had no experience of wintering bees in a greenhouse; but, although we do not think very favourably of it, should, nevertheless, like to see the experiment tried. We prefer their summer-stands as the best site for bees in winter, although aware that they will do well in a dry cellar or dark room adapted to the purpose. If your hives are fitted neither with bars nor frames, the expelled bees should be inducted into them in the manner recommended in the same page of "Bee-keeping for the Many," to which we have already referred, and fed by means of an inverted bottle until they have built combs and stored them sufficiently to last the winter.]

A SORROWFUL TALE OF BEE-KEEPING.

In the spring of 1865 I lost my old gardener, who had an affection for bees. Three old stocks were then reduced to one old and one new. My new gardener cared nothing for bees, and I had no time to go into college on their behalf, or to attend to them. The summer passed, and in September, lamenting the lost harvest, I had the curiosity to examine my two hives. The new one is Mr. Neighbour's improved arrangement for depriving, with three apertures and slides, and upper-storey skep to cover them. I attempted to lift this, and finding it very heavy, proceeded to take off the upper skep, which was, however, fast. With a knife I prised it up, and found it entirely full of new honey. One of the zinc slides had been displaced in fixing it on the lower chamber, and the bees now had free access to the whole area. This I took then as my harvest; it weighed 33 lbs., and when taken out the prime honey in the comb weighed 22 lbs.

The old skep had a small straw cap on the top, merely placed there to be out of the way, and having no communication with the hive. On turning my attention to that, I observed that wasps were passing into the cap, and, lifting it, found it filled with a wasp's nest; accordingly after sundown I brought a bucket of boiling water to this hive, and lifting the cap transferred it to the bucket. A few stray wasps were easily killed. The winter passed but the bees were not fed, as I had no keeper, and supposed the new hive was well stored before the upper compartment was filled, and that the old hive was stored, as I had not deprived it.

This summer there has been very little "business" going on in either hive, and we have no honey; also, the hives are very light. My impression is, therefore, that I deprived one hive, and the wasps deprived the other of all, or nearly all, the stores they had for winter use in 1865-6, and that winter being very mild they needed the more, and so have been reduced in population by starvation. Well, then, on Saturday last there was a great commotion in both hives, which culminated in a pitched battle, and ended in a "great slaughter on both sides;" but whether either has "knuckled down," I do not know. I send you a few of the slain, as taken from the battle field before the camp of each of the belligerents, as I think you may thus be enabled better to judge the nature of the conflict. Since the battle wasps are observed to pass in and out of both hives. What does that mean? Are they rifling the slain, or pillaging both hosts?

Pray console and give the best advice to one who loves to see bees and see them thrive.—CHARLES ELLIS.

[You may possibly have deprived the Neighbour's hive of an undue proportion of its stores, but we should be more inclined to fancy that the honey-harvest has been a failure this season in your locality. We are confirmed in this opinion by both your stocks being in the same condition, as we doubt if the wasp's nest did much harm. The weakest colony has probably "gone to the wall" are this, but as "dead bees tell no tales," especially after being subjected to the manipulations of the post-office officials, those which you enclosed do not enable us to assign a reason for, or to judge of the nature of, this intestine conflict. Whenever an autumnal scramble of this kind takes place, the wasps never fail to take advantage of it by pilfering one or both belligerents, acting apparently on the conviction, that "when bees fall out, wasps come by what is not their own." The best mode of averting the probable ruinous consequences of a combat between two hives, is to shut up one of them in the evening of the first day on which serious fighting is observed, and convey it to a distance of not less than a mile and a half, there to remain a few weeks until the quarrel is forgotten on both sides.]

GREENFINCH MALE BREEDING.—In the Number of the 7th ult. "W. B. H." says he has five young ones from a "Greenfinch hen male" and a cock canary, and the hen is again sitting. Such an occurrence is so rare that it would be well worth authenticating; and if "W. B. H." will give his name and address, also state how and by whom the greenfinch male hen was bred, he will greatly oblige; for many persons not naturalists not unfrequently call a green or pied canary a male bird; consequently his statement requires more explanation ere it can be received as fact. I have no wish to disparage "W. B. H.'s" statement, but would be glad to have it in an authentic form.—B. P. BRENT.

OUR LETTER BOX.

[N.B.—Replies to many correspondents are unavoidably postponed till next week.]

ORCHID COEUR AND HOUDAN HENS (Mrs. Brent).—Mr. Baily, Mount Street, Grosvenor Square, can give the information you seek for.

CHICKENS DECLINING (Fancy Fowl).—You do not describe the malady from which your fowls are suffering. The loose ruffled feathers are the result and sign of the disease; they are not the disease itself. Purge with castor oil, and feed on bread and ale.

FOOD FOR FOWLS TO BE EXHIBITED (W.).—Ground oats slaked alternately with milk and water, bread or damaged ship biscuit, table and kitchen scraps, given three times per day. Birds to be kept very clean and running at liberty. All the best poultry is fed on ground oats mixed with milk. As these can only be had in Sussex, oat or barley meal must be substituted where they are unobtainable. The finer the meal is ground and the less bran there is taken from it the better it is for the birds. In Sussex, the fowl-feeding country *par excellence*, some millers have stones dressed for the purpose, by means of which they grind the whole of the oat so fine that it mixes smoothly, although nothing whatever is taken from it. It is this fact that makes ground oats so nutritious.

SPANISH CHICKENS (R. G.).—The eggs were quite right. Not only do Spanish chickens show a great deal of white, but the flight feathers often remain white till after the first moulting.

IPSWICH POULTRY SOCIETY.—Having received many inquiries from exhibitors at a distance asking if we have any connection with the Suffolk or Woodbridge Poultry Society, we beg on behalf of the Committee to state that our Society is perfectly distinct from, and in no way connected with, that of Woodbridge.—W. B. JEFFRIES, G. W. BAKER, Hon. Secs.

COTTINGHAM POULTRY SHOW (F. Key).—It is very difficult to distinguish an early pullet that has laid from a young hen; and from your statement and your offer to submit the bird to other arbitrators, we conclude that the Judge was wrong in disqualifying her. You should appeal to the Committee, and if they afford you no redress we fear you must submit to the injury.

HALIFAX POULTRY SHOW.—"I find my name down as having won a number of prizes in the Game classes, including the silver cup for a pair of Game chickens. I also find in the Pigeon department, 'Barbe, second prize, J. Firth, Jun., Halifax.' The addresses want reversing, as I do not show poultry; but I did win the second prize for Barbe, and Mr. Firth, of Halifax, won the Game prizes mentioned.—J. FIRTH, JUN., Webster Hill, Dewsbury."

BOOK (W. B. Woolley).—"The Poultry-Keeper's Manual," published at our office, price 7s. 6d.

WHITE DORKING CHICKENS (Maud).—We have received the MS., and wish we saw the same hand-writing oftener. It will be published next week.

WRY-NECKED ALMOND TUMBLER (F. W.).—I know of no cure for the distortion known as wry-necked or Parrot-necked. It sometimes arises from the birds being reared under Pigeons with longer bills, but I think it is as often constitutional.—B. P. E.

GREY PARROT UNWELL (Susannah).—As worms have come from your Parrot, I recommend arsenic and in powder as the best vermifuge. If all food were taken from the Parrot overnight, and a little of the powder mixed with its food for breakfast, I have little doubt it would expel the worms, and then the bird probably will regain its health. If at first it refuses to eat the food mixed with the powder let it fast a little longer and try again, always mixing fresh food, as if the powder is exposed long it becomes bitter.—B. P. E.

BEES UNPRODUCTIVE (Witchfield).—As you do not state the dimensions of the stock hive we can offer no opinion as to its size. Your swarm nest being particularly early, the season may not have permitted them to do more than fill their stock hive, which, nevertheless, may not be too large. We should have made an artificial swarm, had one been desired, from a stock the bees of which were often hanging out. We can assign no reason for their not swarming naturally, but it is certain that the fact of two casts having united together can have had nothing whatever to do with it.

FEAR FOR PIGEON (R. G.).—The common grey pea is that usually given to pigeons. You can obtain the seed from any corn-dealer.

POULTRY MARKET.—SEPTEMBER 3.

We are hardly able to give any quotation for poultry. There is little or no demand for it. The supply of Grouse diminishes a little, and they have sold better the last few days.

	s.	d.	s.	d.		s.	d.	s.	d.
Large Fowls.....	2	0	2	6	Partridges.....	0	0	0	0
Smaller do.....	1	6	1	9	Hares.....	0	0	0	0
Fowls.....	0	0	0	0	Rabbits.....	1	4	1	5
Chickens.....	1	3	1	6	Wild do.....	0	8	0	9
Geese.....	5	0	5	6	Pigeons.....	0	8	0	9
Ducks.....	1	6	1	9	Grouse.....	1	9	2	0

WEEKLY CALENDAR.

Day of Month.	Day of Week.	SEPTEMBER 11-17, 1886.	Average Temperature near London.			Rain in last 30 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.		Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.		m.	s.	
11	TU	<i>Bauera rubrifolia.</i>	68.4	46.5	57.4	10	30	45	24	46	1	48	20	47	2	8	26	284
12	W	<i>Blavia ericoides.</i>	68.8	44.5	56.7	15	31	5	21	6	5	9	45	7	8	3	47	285
13	TH	<i>Blandfordia intermedia.</i>	67.7	45.7	56.7	18	33	5	19	6	8	16	14	8	4	4	8	286
14	F	<i>Boschia linophylla.</i>	68.7	46.8	56.5	20	35	5	17	6	9	11	44	8	5	4	29	287
15	S	<i>Brachylena narsifolia.</i>	67.1	44.4	55.7	20	36	5	14	6	after.		20	9	6	4	50	288
16	SUN	16 SUNDAY AFTER TRINITY.	68.3	47.8	57.8	16	38	5	12	6	0	1	1	10	7	5	11	289
17	M	<i>Brongniartia sericea.</i>	68.9	45.6	57.3	15	39	5	10	6	52	1	45	10	11	5	32	290

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 68.0°; and its night temperature 46.0°. The greatest heat was 66°, on the 13th, 1868; and the lowest cold 26°, on the 13th, 1860. The greatest fall of rain was 0.90 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

VIOLA LUTEA AND MONTANA.



OR bedding-purposes these, like *Viola cornuta*, will be found invaluable. *Viola lutea* has a bright yellow flower, and the plant is of a very neat dwarf habit. It is quite

as free as *Viola cornuta*, and will become a valuable addition to the flower garden. *Viola montana* is rather stronger in habit, and grows taller than either *V. cornuta* or *V. lutea*. It possesses a pleasing grey shade of colour. This season some large beds of *Viola montana* var., dotted with *Pelargonium Boule de Feu*, in the Liverpool Botanic Gardens, are very fine; some small beds of *V. lutea* were also very effective. I consider both Mr. Tyerman's *Violas* valuable additions to the flower garden, and have much pleasure in calling public attention to them. These, like Mr. Tyerman's beautiful *Daelylis glomerata*, will become general favourites for flower-garden decoration. Mr. Tyerman thinks some of the *Campanulas* may be used with good effect as summer bedding plants. He suggests the following arrangement, which, I have no doubt, would have a very pleasing effect as a ribbon-border:—1st row next the grass, *Viola lutea* (var. Tyerman); 2nd row, *Viola cornuta*; 3rd row, any scarlet *Verbena* possessing a good dwarf habit; 4th row, *Campanula carpatica alba*; 5th row, *Campanula carpatica* (blue); 6th row, *Pelargonium Beauty of Oulton*.

It will be seen that four out of the six plants to be used in the above arrangement are perfectly hardy, and very easily propagated. This will save much trouble and expense in labour and material for covering up and sheltering tender bedding plants from the early spring frosts whilst the ordinary bedding plants are undergoing the process of hardening-off, and will give much extra space for other purposes; and if the *Campanulas* prove after trial to be as useful as *Viola cornuta*, *lutea*, and *montana*, I shall consider it a step in the right direction. All who cultivate bedding plants extensively well know what a very large amount of time and space they require during the spring months, whilst plants of the description named above will be growing in their nursery-beds, where they have been all winter, and at the proper time will only want carefully planting out where they are to gladden the eye with their varied array of pleasing colours during the summer. They can be planted in their proper places early in March, if the weather is open and suitable, and will very much assist their more delicate companions when these are planted out in May or June by sheltering them from the cold winds, &c.; for by this time they will have firm hold of the soil, and by planting the intermediate rows rather thickly an immediate effect will be produced, which

will continue throughout the summer and autumn. The spaces between the rows should, however, be frequently stirred with the hoe in April and May, so that the soil may be in good condition for receiving the summer bedding plants, and if the ground is not rich enough, a slight sprinkling of guano should be sown over it. The plants will be greatly benefited by this soon after they are planted out.

The ground in which bedding-out plants are too frequently planted is often very poor; but however poor it is, some persons expect the plant to grow and produce the desired effect, and when it fails to do so it is often condemned, and said to be useless for the purpose for which it has been recommended. No plant has been more unjustly abused than the *Iresine Herbertii*, solely because the soil in which it has been planted was too poor for it, and because the plants were not in good condition when they were planted out. Plant the *Iresine* in a good rich soil, and if the weather be dry after it is planted, supply it once or twice a-week with manure water, and I will guarantee that it shall answer the most sanguine expectations. In a letter which I received from a nobleman in the early part of last month, speaking of the *Iresine*, he says, "The *Iresine* was just coming to its best, and was very effective. It is absurd to compare this with *Amaranthus*, to the discredit or merit of either. Both are valuable, and *Iresine* takes up the effect just when *Amaranthus* is growing rather worse. *Coleus* beats both in climates where it will grow."

I have seen beds of *Iresine Herbertii* far surpassing the *Coleus* when dressed in its best garb. Let all who have condemned the *Iresine* try it once more in rich deep soil, and I venture to predict a very decided reversion of feeling and opinion. Plant two beds of Mrs. Pollock *Pelargonium* side by side, let the soil in one be composed of one-half, or more, well-decomposed manure, and the soil of the other bed contain very little or no manure, and see what the effect will be. The plants in the poor soil will be scarcely fit to look upon, whilst those growing in the rich compost will be models of health and beauty. The difference in the appearance of the plants in the two beds will be so great that they will scarcely be recognised as the same variety; but water the plants in the poor bed three or four times a-week with moderately strong guano water, and each time the bed is watered let it be well soaked through, and in a fortnight or three weeks, if the weather be warm and forcing, it will be equal in its appearance to the bed that so much surpassed it only a short time before.

I saw Mrs. Pollock *Pelargonium* in great beauty with Mr. Tyerman the other day; in fact it looked better with him than any bed of it which I have ever seen. It was one of a very pleasing group of beds which had been formed on what originally was a rubbish corner. The beds in this group are formed in a sunk panel, and, being raised about 10 inches above the bottom of the panel, they were, therefore, surrounded by a beautiful carpet of green grass. Behind this beautiful group of beds there is a fine background of evergreens. The spaces between the beds

appeared to be about 80 inches wide. The bed of Mrs. Pollock had a simple edging of *Lobelia Paxtoniana*. On a raised terrace, between the panel and a broad gravel walk, was a very neat series of chain beds. The smaller beds in the chain were planted with *Viola lutea* and *Lobelia Blue King*, mixed; these had a very charming effect. The larger beds in the chain, I think, were planted with *Centaurea candidissima*, *Perilla*, and *Verbena venosa*. The whole group of beds was so beautiful, and the arrangement of the colours in them so perfect, that it struck me as being one of the most successful groups I had ever seen. Another irregular chain which I saw was very successfully planted with a centre of *Palargonium Rubens Improved*; 2nd row, *Flower of the Day*; 3rd row, *Verbena Purple King*, with an edging of *Cerastium tomentosum*. This arrangement looked exceedingly beautiful. Altogether I considered the bedding-out at the Liverpool Botanic Gardens much superior to anything I had seen in the neighbourhood of London this season.

Mr. Tyerman had a fine bed of a dark-leaved plant which I think is likely to prove useful. It is *Plantago purpurea major*. This is also a perfectly hardy plant, and may be used with good advantage with the *Violas*. It seeds very freely, and is easily propagated by offsets.

A large bed of *Geranium anemonifolium* produced a fine effect. This plant would look well in a sub-tropical arrangement.

In one of the large greenhouses containing a miscellaneous collection of plants, the whole of the roof was covered with *Fuchsias*. They were planted just inside the front wall, and trained up the rafters. The effect on looking from either end was exceedingly pretty. The Liverpool Botanic Gardens and the Denbies are the only places where I have seen *Fuchsias* show off to such advantage.—J. WILLS.

MR. HARLOCK'S ORCHARD-HOUSE AT ELY.

HEARING of the success of this mode of culture at Ely, I was induced on the 30th of last month to pay a visit to that city, and with the kind permission of Mr. Harlock I saw all that I wished to see.

The house is span-roofed, 100 feet long and 25 feet wide, ventilated on each side, and at the apex of the roof. The trees are from five to six years old, and all, or nearly all, open pyramids from 6 to 8 feet in height. Mr. Grix, the gardener, who is a self-taught orchard-house cultivator, not having practised summer pinching, has hitherto satisfied himself with winter pruning, which he has done well; but, owing to the shoots not having been shortened, the luxuriant growth of the trees this season gives a crowded appearance to the house which summer pruning would have obviated.

In no place have I seen orchard-house culture more thoroughly carried out. The trees are all in 18-inch pots, are top-dressed in autumn and surface-dressed in summer, the pots stand on concreted borders, and, owing to their large size, and the rich surface-dressings given, the trees are all in the most vigorous health—not a trace of red spider or mildew to be seen. A large portion of the crop had been gathered—a most abundant one, most of the Peach and Nectarine trees having borne from six to nine dozen each; the Apricots had borne a crop equally good, one and a half bushel having been gathered. I saw only the later kinds of Peaches, such as the Walburton Admirable, the Boudin, and others; the fruit abundant and very large. At the time of my visit 115 fine luxuriant trees of Peaches, Nectarines, and Apricots, and a few Plums, were in the house, forming a group exhibiting the most perfect culture I ever witnessed.

To illustrate how perfectly Mr. Harlock has carried out the orchard-house system, I may mention that in the garden, arranged in rows, were 120 fine pyramids of Pears and Plums, all in 18-inch pots, and nearly all full of fine fruit; from those not so the fruit had been gathered. These trees had been wintered in the orchard-house with the Peach and other trees, and removed to the open air early in June, when the danger from spring frosts was over. On many of the Pear trees were from five to six dozen of fruit, and the Plums were equally abundant. On trees of Guthrie's Late Green, Reine Claude de Bayay, and Belle de Septembre, were fine crops, and the flavour of the two first, the fruit quite ripe, was remarkably rich. A Diamond Plum tree was pointed out from which the fruit had been gathered; this was described as having been the most beautiful object ever seen, the fruit very large, and out-

numbering the leaves. Mr. Harlock stated that many of the pyramidal Pear trees on Quince stocks which had been planted out in the garden for some years and had not borne any fruit, were now under pot-culture the most prolific. I noticed particularly Winter Nellis, Glou Morceau, Joséphine de Malines, Zéphirin Grégoire, and Beurré Sterckmans bearing most abundant crops. The latter sort, which often ripens badly when cultivated in the open ground, is in common with other late Pears so forwarded by its early blossoming, and setting its fruit under glass, that it ripens in December, and is always good. This may be a hint to those who live in places where late Pears ripen with uncertainty. As far as I could judge, Mr. Harlock's Pear trees seemed to be in most robust health, and so fertile as to lead one to think this method of cultivating our fine sorts of Pears far preferable to planting them in the open borders, the blossoms being always safe from spring frosts, and the fruit being large and ripening perfectly. Some Louise Bonne were the largest I have ever seen. I have only to add that Mr. Harlock is an enthusiastic amateur, and derives much pleasure from his fruit culture. His vinerias, 200 or 300 feet in length, are crowded with Grapes.—VIATOR.

THE THEORY OF SILVER SAND.

WE have long been in the habit of using the silver sand of Surrey when striking cuttings, but we do not comprehend very clearly the reason for its beneficial action. Can any of our readers help us to an explanation? We mix it with the ordinary garden mould in varying proportions. There is surely something in the sand which operates chemically, and not merely mechanically?

We have noticed, also, that in removing many of the very old timber trees in this neighbourhood that a small collection of flint stones is commonly to be found under the bole of the tree. Did our forefathers place these stones there for a reason similar to that which leads us gardeners to use silver sand?—SILICA, Croydon.

[We have no doubt that silver sand when mixed with the soil in potting acts a little chemically on other constituents of the soil, but to a great extent the action is mechanical. In using it for striking cuttings it is chiefly valued for its purity—its freedom from iron and other minerals, and clay, earth, and calcareous matters, which are often the accompaniments of other pit and river sands. The nearest to silver sand in usefulness we have found to be that collected on public roads, after heavy rains, which sand, when well washed, is about as pure siliceous as silver sand. What in practice makes it such a good covering for pots of cuttings is its freedom from other substances, its porosity, which allows the water freely to pass without lodging about and rotting the cuttings, and, notwithstanding this porosity, the closeness with which it clings round the cuttings, preventing the access of air to their base, which, if permitted to any extent, would rob them of their juices and vitality.]

We should suppose that the heaps of flints beneath old timber trees, if placed there at all by our ancestors, must have been used for the purpose of drainage, but we have some doubts about the matter, as we recollect that when a number of Scotch Fir trees were blown down in a storm, and the winds brought along with the torn-up roots a mass of earth almost as large as the end of a cottage, it was noticed that there were lots of stones at the bottom of the excavations thus made; and great were the divisions of opinion among us young rustics how they came there, some contending that they were placed there as a suitable foundation for the trees to stand upon, and this opinion was considered an utterance of wisdom until the sceptics by mattock and shovel demonstrated that at a similar depth in the locality plenty of stones were found where there were no trees growing. This simple matter might lead our learned inquirer to give his valuable opinion as to the collecting of stones, we will not say growing, as some people maintain.

We are sorry we should be accused "of never giving a reason for what we do," as to give reasons for operations is rather a general habit with us, and if the practice is not more universal it is because we are not wise enough to know the reason why, or, as in the case of the upturned trees, we have come to see that some things that we once looked upon in the relation of cause and consequence have turned out to be mere fortuitous coincidences. If this does make us a little chary in assigning reasons where all does not appear quite transparent, it places us just in the right position of learners; and we presume that

few could elucidate the "why" of all our simple operations so well as our learned inquirer "SILICA," and from no one would we more gratefully receive instruction.]

VINERY CONSTRUCTION.

I AM about to build a vinery for the purpose of ripening Black Hamburg Grapes in April, when, I suppose, I should reap the greatest profit from their sale.

I propose to build a lean-to house, 100 feet long by 18 feet wide. I have strong reasons for not building a very high wall if I can avoid it, and I also want to reduce the cost as much as possible.

I have read all the works on the subject which I have heard of, and I read the Journal regularly, and have some gardening experience; but I need some counsel on certain points at starting, and it is most important that I should commit no errors at first which cannot afterwards be rectified. It will be of great service to me if you will kindly advise me on the following points, as I wish to commence at once:—

1. The aspect available is south-west. Will this answer my purpose?

2. What is the lowest wall I may have at back for the width of 18 feet?

3. What is the height recommended for the front wall?

4. What is the lowest quality and weight of the glass to be used consistent with satisfactory results?

5. I propose to have the Vines planted inside the house, and bearing in mind that I want to force early, where should the roots be? Kept inside, or allowed 12 feet of border outside, as well as some border inside to spread in? In the latter case I should have the front wall on arches. I propose to plant 2 feet apart, should I then have an arch for each Vine, or for every two Vines? If it is necessary to keep the roots inside the house, what width of border should I have there?

6. In either case, how many four-inch pipes must I have, and what position should they occupy?

7. What is the best time for planting the Vines? Mr. Thomson, in the Journal of Feb. 20th, 1866, page 140, says "when they have burst their buds about a quarter of an inch," and he gives good reasons; in "Sanders on the Vine," I find at page 5, "in the autumn;" "Pearson on Vine culture" is silent on this point.

8. What boiler would suit my purpose best?

It is my intention to build large houses for the growth of fruit, and to experiment on hybridising.

In the Journal for July 24th, 1866, page 170, I see recommendations as to preserving fruit. I have experimented on this subject, and succeed in preserving fruit perfectly fresh without sugar. For some winters past I have never been without a good supply of bottled fruit, perfect in flavour and bright in colour. If you would like the details I will send them.—H. W.

[You scarcely give us sufficient data to enable us to decide; but taking your width of an early vinery to be 18 feet, and your disinclination to have a high wall at the back, economy being the great object, then, instead of a thorough lean-to, we would advise a hipped roof. For early Grapes you should either have a steep roof or plenty of upright glass. To have a roof at 45° you would require a wall as high as the width of the roof, and the roof to slope to the wall plate. If you had 2 feet of a front wall that would make the roof all the more flat, but still suitable for Grapes in April and May, not but that early Grapes may be grown in a house with a flat roof, but not so well as in one with a steeper roof, so as to have all the help possible from the sun in winter and spring. A fine house would be obtained by having the wall 18 feet at back, and from 1½ to 2 feet high in front. Keeping economy in bricks in view, a good house would be formed by having a back wall 10 feet in height, a hip of 5 feet meeting the front roof at 4 feet or so from the wall, at a height of 18 feet from the floor, which, with a front wall of 2 feet, would give a front sash of about 17 feet. You can judge for yourself by pencilling these dimensions in lines. You will perceive that with a 10-foot wall and no hip, your roof will be more suitable for July, August, &c., than for April.

But for the protection of the back wall, the most economical plan for covering 18 feet of ground, would be a span roof with side walls about 18 inches in height, with ventilation in them, and a double ridge with ventilators between them, and the Vines trained up each side; height to ridge about 18 feet. All such roofs could be fixed.

With these general remarks, and bearing in mind that the roof is to be less or more of a lean-to, we reply—

1. That the aspect will answer very well, though direct south would have been better, as securing more early sun.

2. Even with a hip the lowest wall would be about 10 feet above the ground line.

3. For convenience, the wall in front should not be less than 2 feet, and in that the front ventilators.

4. The lowest priced glass suitable, is what is called fourths, and 16 ozs. to the foot, which will generally range from 18 ozs. to a little over 15 ozs., and according to the size of the squares will cost from 1½d. to 2d. per foot. If at all afraid of hail, it would be best to use 21-oz. glass, which will cost from 2½d. to 3d. per foot, for fourths. If you obtain a better quality, as thirds or seconds, you will pay more in proportion.

5. In an 18-foot-wide house, you may have the border for the Vines inside the house entirely for early forcing. At any rate, we would plant inside. If the roots are to be kept entirely there, we would plant in the middle of the house, and train both ways; if in such a hip-roof as alluded to, and you resolve on also having an outside border, then we would plant 3 feet or so from the front. In that case were we doing the work we would dispense with arches, build piers some 4 feet apart, and on these place a stout oak or, rather, an iron sill, and the roots could go out and in as they liked. To make the most of such a house early, we would plant within 2 feet of the front, and also along the back wall, or have something else there. For early forcing, we would make all the inside into a border, and keep the roots mainly there.

6. For early forcing we would have at least five four-inch pipes, four flows and one return, and as far as pipes would interfere with nothing, we would have them all on the same level, just above the level of the floor, placed over it as most convenient.

7. It does not matter when you plant the Vines, if treated rightly afterwards. If in a state of rest, the roots must be protected and encouraged to move as soon as or before the tops. If the buds are moving before planting, they must have no check afterwards. Many plant in May or June. There is less trouble if the Vines are planted when at rest. If the roots are planted outside in autumn, they should be protected from frost, snow, and cold rains.

8. The cheapest boiler, and a very good one, would be a saddle-back, 36 inches long, 25 inches wide, and 22 inches high, which if cast iron will cost about 27 10s. Cylinders will cost a little more, and tubular more still. Monro's cannon boiler will be about the same in cost as a saddle-back. The tubular boilers if fed from the top are, perhaps, the easiest managed, but we have done well with saddle-backs, and after trying many, some of the greatest gardeners in the largest establishments are going back to them. Wrought-iron saddle-backs cost a little more, and, on the whole, our opinion is, that they do not last so long.

Even if you mean to have a border outside, you need not make it the first year, and a piece at a time will be better than making it all at once.

We shall be much pleased to receive an account of your mode of preserving fruit, so as to have it perfect in flavour, and bright in colour in bottles in winter, and without sugar. It would be generally useful and valuable.]

ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 4TH.

At this meeting there was an excellent display of plants, both ornamental-foliaged and flowering. Of the former Messrs. Downie, Laird, and Laing contributed a numerous collection of those employed in sub-tropical gardening, for which they received a special certificate. Among them were *Wigandia caracasana* and *urens*, *Alternanthera*, *Polymnia grandis*, variegated *Maize*, *Eucalyptus globulus*, *Urtica bipinnatifida*, *Ferula nodiflora* with much-divided foliage, and several fine *Solanums*. Of the last, *Solanum robustum* was particularly noticeable by the fine reddish cinnamon of the upper sides of the leaves, and among other very ornamental plants of the same genus were *S. pyramantha* and *decurrens*, both with reddish orange spines, and the latter with white flowers; *S. laciniatum elegans*, with deeply cut foliage and large violet flowers; *S. auriculatum*; *S. marginatum argenteum*, with whitish foliage; and *S. amazonicum atropurpureum*, with deep green leaves, which, as well as the stem, were set with numerous formidable spines. Messrs. Veitch, Chelsea, had likewise a special certificate for a collection in which were some beautiful ornamental-foliaged plants, such as *Marantas Lindenii* (first-class certificate), *roosea-picta*, and *Veitchii*.

Dioscorea *Wettr*, *Herrania palmata*, *Ananassa Portuensis*, *Coleus Gibsoni*, *Eucynopus macrophyllus* with broad, shining, dark green leaves, a pretty variegated *Abutilon striatum*, and the golden variety of *Retinospora obtusa*, the last very beautiful. From Mr. Bull, Chelsea, came three plants of the old *Amaryllis Josephina*, now seldom seen, the largest of which had a thick stem about 2½ feet high, bearing a very large head of flowers, like a much-branched candelabrum, and numbering nearly fifty. For this a well-deserved special certificate was awarded to Mr. Bull, and for *Polystichum angulare Holcense* he received a first-class certificate. The same exhibitor likewise contributed *Philodendron crinipes*, with deeply-lobed, shining, pea green leaves, *Tacca picturata*, with a dark stem marbled with white, *Dioscorea discolor variegata*, shown at the previous meeting under the erroneous name of *D. vittata*, a variety with beautifully mottled and striped leaves, and *Caladium Sanspareil* and *Annihilator*, the latter with crimson veins and white blotches. Mr. Cripps, Tunbridge Wells, again exhibited a collection similar to that which he produced at the previous meeting, and which comprised handsome *Anonuba* and other Japanese plants, *Alternanthera*, *Telochanthera ficioides* variegata, and *Desmodium penduliflorum*, a hardy Japanese shrub with purplish pea-like flowers. Ivy-leaved *Geranium L'Elegante* from Mr. Cunningham, The Forge, Burton-on-Trent, the leaves neatly edged with creamy white, a very desirable variety of compact habit, was awarded a first-class certificate. Messrs. Carter & Co. contributed several *Lobelia*s of the fulgens section, as did likewise Mr. Knapton, of the Sheen Nursery, Richmond, who received second-class certificates for *Crimson King* and *Rose Queen*, the former a deep crimson and the latter a rosy crimson. Messrs. E. G. Henderson were awarded a first-class certificate for *Pelargonium Sophia Dunmore*, one of the tricolor class and very showy, having a finely coloured zone. From the same firm came also *Agalmis staminea*, a plant of creeping habit, with fine bright red flowers, *Coleus aeneo-marginatus* having the foliage edged and blotched with yellow, and *Coleus marmoratus*. Messrs. Veitch exhibited a fine collection of *Aster*s, comprising examples of the various sections, such as the *Queen*, *Pearly-flowered*, *Emperor*, *Hedgehog*, *Chrysanthemum-flowered*, &c., together with the unimproved China *Aster*, to show the advance made on the original. A special certificate was given for the collection. First-class certificates were likewise awarded to Messrs. Osborn, Fulham, for *Statice Frostii*, a fine deep-coloured variety, and to Mr. R. Hardland, Lough Nurseries, Cork, for a golden-variegated form of *Wellingtonia gigantea*. From Mr. B. Parker, of Tooting, came a dark variety of *Lælia elegans*, and from Mr. Ferguson, Whiston Nursery, several *Zonale Pelargonium*s, but to none of these subjects was any award made. A certificate of the first-class was awarded to Mr. Mann, of Brentwood, for tricolor *Pelargonium Melona*, and one of the second-class for *Mimas*, bright scarlet, in the way of Dr. Lindley. Mr. Smith, gardener to S. H. Norris, Esq., *Alpenrose*, contributed a good spike of *Renaanthera coccinea*, and Mr. Standish, Ascot, a fine collection of choice *Gladioli*, for which a special certificate was awarded. Mr. Eckford, Colehill, had a first-class certificate for an orange-scarlet *Verbena* called *Colehill*, and a second-class one for *Dahlia Lady Jane Ellice* tipped with purplish rose; and second-class certificates were also given to Mr. Keynes, of Salisbury, for *Gazelle*, shaded salmon, tinged with violet at the tips, and for *Harriet Tetterell*, a light ground, heavily tipped with rosy purple. *Rose* *Williams*, deep maroon crimson, a fine variety, also from Mr. Keynes, received a first-class certificate, as did also *Tropæolum King of Scotland*, a free-flowering scarlet variety shown by Mr. George, of Stamford Hill, who likewise exhibited *Luteum Improved*, a yellow kind spotted with crimson. Mr. Cannell, Woolwich, sent two seedling *Rachelas*, and Messrs. Stuart & Mein, of Kelsa, Hollyhock blooms, but owing to the journey, not in good condition.

FRUIT COMPETITION.—With the exception of some fruit sent to name very little was submitted to the Committee at this meeting. Mr. Coming, Royston, sent a seedling Plum called *Black Prince*, but it proved to be inferior in flavour to existing varieties; and from Mr. C. Dixon came *White Beechwood Melon*, raised between the Beechwood and Bromham Hall, but its flavour was likewise not good; also a double Cucumber united by the sides, a monstrosity, however, which is not of uncommon occurrence with *Oscurbitaceæ*. Mr. Craddock, gardener to Lord Willoughby de Broke, Compton Verney, sent *Aston Kidney Potato*, a clean-skinned, fine-looking variety, and *Malmaison Seedling*, both of which were referred to Dr. Hogg to report upon when cooked. Messrs. Veitch exhibited a collection of well-grown Onions, comprising among others the *Trebons*, *Danvers Yellow*, *Hamham Park*, *White Spanish*, and *Reading*. The last three were decided to be absolutely the same. A special certificate was awarded to Messrs. Veitch for the collection.

WINTER SHOW, September 8th.—Mr. Young, Highgate, received a first prize for a collection of fruit, consisting of seventeen dishes, and very excellent in quality; and Mr. Easley, Digswell, had a third prize for one consisting of five dishes. Mr. Easley and Mr. Young likewise received first and second prizes for collections of vegetables, and an extra prize was awarded to Mr. Young for a collection of nineteen varieties of well-grown Onions. Messrs. Cuthbush, Highgate, received a first-class certificate for very fine specimens of what is called the *Hamham Park Onion*, noticed in another page, and a similar award for

twelve handsome spikes of *Gladiolus Brechleyensis*. Prizes were offered on this occasion for collections of six miscellaneous plants. Mr. Bartlett, Hammersmith, was first, and Mr. Young second; and an extra prize was likewise awarded to the former for a good collection of miscellaneous plants and Ferns.

KEEPING WASPS AND FLIES FROM WALL FRUIT.

At page 171 I observe a remark about protecting Peaches from wasps and woodlice. Last year I lost a large portion of my crop, both inside and outside my house, by woodlice and bluebottle fly. In the spring of this year I procured from the gasworks some of the refuse lime through which the gas had been purified, mixed it as I would common lime for whitewash, and put a good coat over my walls, the effect has been I have not seen a single wasp or bluebottle there this year.—JAMES PIM.

CRYSTAL PALACE SHOW.

THE autumn Show took place on Wednesday and Thursday last, when there was an excellent display of fruit and cut flowers, though scarcely so extensive as in former years. Considering the somewhat unfavourable character of the weather, there was a good attendance of visitors.

Fruit, to which one side of the nave was devoted, was not so well represented as usual, both as regards quantity and size; but deficiency in the latter respect is pretty general this season. Only two collections were shown: that from Mr. T. Dawson, gardener to Earl Cowper, Panahanger, to which the first prize was awarded, consisted of a *Black Prince* Pine Apple, good bunches of *Barbarossa* and *Muscat Grapes*, a green-fleshed Melon, fine *Violette Hâtive* Peaches, *Elrège* Nectarines, and *Florence* Cherries. Mr. Donald, gardener to J. G. Barclay, Esq., Leyton, was second with a *Queen Pine*, *Black Ham*burgh and *Muscat Grapes*, *Scarlet Perfection* Melon, *Peaches*, *Nectarines*, *Cherries*, and *Pears*.

PINE APPLES were not numerous nor remarkable for quality; there were, however, a few good Queens. For three fruits, Mr. Dawson was first with *Smooth-leaved Cayenne*, *Providence*, and *Black Prince*; and Mr. Chilman, gardener to the Earl of Normanton, Ringwood, second with a *Queen* and two *Smooth-leaved Cayennes*. Mr. Page, gardener to W. Leaf, Esq., Streatham, exhibited two of the latter, weighing 5 lbs. each, and *Charlotte Rothschild*, 4 lbs.; and Mr. Wallis, gardener to J. Dixon, Esq., Astle Park, Providence, *Essex*, and *Brown Sugar-loaf*. A well-ripened *Queen* from Mr. R. Smees, gardener to W. H. Stone, Esq., M.P., Dulwich, was first in the class for that variety, Mr. Elstone, gardener to S. Lawrence, Esq., Clapham Park, being second with a fruit of 4 lbs. 6 ozs.; and Mr. R. Craik, gardener to G. Soames, Esq., was third. In the class for any variety Mr. J. Douglas, gardener to F. Whitbourne, Esq., Ilford, was first, and Mr. Page second, with *Smooth-leaved Cayenne*, and Mr. Douglas also took the third prize with *Charlotte Rothschild*, weight 5 lbs.

GRAPE.—There was not nearly so fine an exhibition of these as might have been expected, though several very excellent bunches were shown. The *Black Hamburgs* from Mr. Meredith, of Garston, which took the first prize in the class for *Black* kinds, were, as usual, remarkably fine, the bunches being very large, and the berries large and finely coloured. Mr. Osborne, Kay's Nursery, Finchley, who was second, had also very fine bunches, though not so even as Mr. Meredith's in the size of the berries. Equal third prizes were awarded to Mr. R. Norris, gardener to A. Bosanquet, Esq., Southgate, for *Black Hamburg*, and to Mr. Devenish Rodwell, Weymouth, for fine but somewhat loose bunches of the *Muscat Hamburg*, weighing 10 lb. 1 oz. These were all three on the same rod, and it was a matter of surprise that three such bunches should have been produced within so short a distance of each other. Of other kinds good bunches of *Black Prince* came from Messrs. Lane & Son, of Lady Downe's from J. Hollingworth, Esq., Maidstone, and Mr. Morris, gardener to R. Bright, Esq., Tring, and of *Black Alicante* (?) from Mr. Irving, gardener to the Duke of Hamilton, Easton Park, Suffolk, the last being ripened in a Peach-house without fire heat. Of *White Grapes* the best were beautifully ripened *Canon Hall Muscats* from J. Hollingworth, Esq. Mr. Irving, gardener to the Duke of Hamilton, was second with good well-ripened bunches of *Buckland Sweetwater*; and Mr. Osborne, Finchley, and Mr. Bailey, gardener to T. T. Drake, Esq., Sharnaloe, were equal third for *Muscats*. The heaviest bunch of any kind was a very fine one (weight not stated), of *Black Hamburg*, not, however, quite perfect as regards colour, shown by Mr. Osborne; and a bunch of the same kind, weighing upwards of 4 lbs., from Mr. Irving, was second. There were several good baskets of 12 lbs. and upwards, mostly consisting of *Black Hamburg*. Mr. R. Norris, gardener to A. Bosanquet, Esq., was first, and Mr. Osborne, Finchley, second with that kind, and equal third prizes were awarded to Mr. W. Toomer, gardener to J. Perrett, Esq., Herne Hill, for *Muscats*, small in berry but well ripened, and to Mr. T. Frost, Maidstone, for *Black Hamburg*.

PEACHES AND NECTARINES were all rather small though well coloured. The former chiefly consisted of *Grosse Mignonne*, *Royal*

George, Royal Charlotte, Noblesse, Barrington, Violette Hative, and Bellegarde. Mr. Thornycroft, Floore, Weedon, was first; Mr. Crane, gardener to the Rev. L. Deedes, second, with Royal Charlotte; and Mr. Hazell, Denmark Hill, third, with Grosse Mignonne. Some good fruit of Royal George, grown in pots in an unheated orchard-house, came from Mr. Douglas, gardener to F. Whitbourne, Esq. For Nectarines: Mr. King, gardener to G. Roder, Esq., Slaughterham, was first with a good dish of Violette Hative; Mr. Sutherland, gardener to Mrs. Jamieson, Fulham, second with the same variety; and Mr. Dawson, third, with Downton. Some finely-coloured fruit of Rivers's Orange, from orchard-house trees, were shown by G. F. Wilson, Esq., Weybridge. Elruge, Roman, Pitnastone Orange, Murray, and one or two other varieties were also fairly represented.

Melons were shown to the number of three score. The best Green-fleshed was Preston Hall Hybrid, from Mr. Frost, Maidstone; Mr. Samuel, Broom Park, Betchworth, was second; and Mr. Chilmann, third. Of the Scarlet-fleshed varieties, Scarlet Gem had the pre-eminence, Mr. Stacey, gardener to E. Raymont, Esq., Norwood, being first with it; Mr. Bailey, second; and Dr. Cooper, Slough, third.

Figs were not numerously shown, but very good. The best were very fine Brunswick and Brown Turkey, from Mr. Dennis, gardener to H. Hayward, Esq., Fokington; next came Black Ischia and Brunswick, from Mr. Samuel, Betchworth. Mr. Turner, of Slough, was third; Mr. Lacey, gardener to C. S. Mortimore, Esq., Morden Park, fourth.

CHERRIES.—Morello, as might be expected at this late season, was the variety most shown, and Florence was also well represented. The first prize was awarded to Mr. Marcham, gardener to E. Oates, Esq., Hanwell, for fine dishes of Morello and Kentish; the second to Mr. Bailey, for Morello and Bigarreau; and equal third prizes to Mr. Sage, gardener to Earl Brownlow, Ashridge, for Morello and Florence, and to Mr. Dawson for the latter and Belle Magnifique.

PLUMS were tolerably numerous, but scarcely so good as in former years. R. Webb, Esq., of Reading, was first with excellent dishes of White Magnum Bonum, Goliah, and Oee's Golden Drop. Mr. Bailey was second with Victoria, Washington, and Prince of Wales; and Mr. Shoebridge, gardener to E. O. Goad, Esq., Carshalton, third, with Goliah, Jefferson, and Washington. Mr. Gilbert, Stoke, Slough, had a fourth prize for the first and last, and Pond's Seedling. Excellent orchard-house fruit of Transparent Gage, Oee's Golden Drop, and Reine Claude de Bavay, came from Mr. Wilson, Weybridge.

APPLES.—Of dessert kinds the best four dishes were Red Pearmain, Red Astrachan, Colonel Vaughan, and Reine du Laak, from Messrs. Lane, St. Mary's Cray; Mr. Gilbert, Stoke, was second with Bishop's Pippin, Devonshire Quarrenden, Cox's Orange Pippin, and a red-streaked seedling; Mr. Webb, Reading, third, with Red Astrachan, Scarlet Nonpareil, Ribston and Cox's Orange Pippin; and Mr. Beuster, Goring, Sussex, fourth, with Fearn's Pippin, Red Astrachan, Bull's Golden Reineette, and Cellini. Among other kinds we noticed Early Strawberry, pretty, but not of much value as regards flavour, Harry Pippin, Ashmead's Kernel, (misnamed Colonel), King of the Pippins, Pearson's Plate, Early Red Margaret, and Irish Peach. The first prize for Kitchen Apples was taken by Mr. Willmore, Hoyle Place, with good examples of Alexander, Red Astrachan, Blenheim and Stone's Pippins. Mr. Mortimore was second with a kind called Pett's Pitting, Cellini, Lord Derby, and Lord Suffield. Messrs. Lane, St. Mary's Cray, were third, and Messrs. Gadd, Dorking, fourth. Allington, Dumelow's Seedling, Northern Greening, Gloria Mundi, Hollandbury, and Kentish Fill-basket were among the other kinds exhibited.

PEARS.—The best three dishes were exhibited by Mr. Gilbert, of Stoke, Slough, who had good examples of Williams's Bon Chrétien, Louise Bonne de Jersey, and Duchesse d'Angoulême. Mr. Harrison, Catlands Palace Gardens had fine dishes of the two last-named kinds and Beurré Clairgeau, and Mr. Richbell, gardener to — Heathcote, Esq., Epsom, was third with good Beurré Diel and Beurré Clairgeau. A third prize was awarded to Mr. Bonner, gardener to the Rev. J. Cooper, Woking, for Gansel's Bergamot, Duchesse d'Angoulême, and Marie Louise. The prize for the heaviest dish of twelve was awarded to Mr. Gadd, gardener to J. Jaffray, Esq., for Uvedale's St. Germain, weighing 10 lbs. 4 ozs. G. F. Wilson, Esq., was second with one of Mûrechal de la Cour, weighing 8 lbs. 4 ozs., and Mr. O. Goldsmith third. Pears shown for flavour consisted almost exclusively of Williams's Bon Chrétien and Jargonelle. The second and third prizes were awarded to the former kind shown by Mr. Grover, of Hammer-smith, and Mr. Fraser, of Lea Bridge, whilst the first went to a variety unnamed, exhibited by Mr. Thornycroft.

FRUIT TREES IN POTS.—Mr. Toomer, gardener to J. Perrett, Esq., Herne Hill, exhibited a Black Hamburgh Vine bearing splendid bunches. Messrs. Lane & Sons and Mr. Hope, gardener to W. Murrell, Esq., also exhibited beautifully fruited specimens, and some good pot Vines, though of smaller size, came from Mr. Geira, Norwood. Vines, Pear, Apple, and Plum trees in pots, were shown by Mr. Fraser, together with excellent dishes of ripe fruit from pot trees; and pot Plum and Peach trees came also from Mr. Verigan, Clapham Common.

MISCELLANEOUS.—Mr. Webb, of Reading, furnished twenty kinds of Filberts, among which were several of his own raising; Mr. Procece, gardener to E. Wood, Esq., Ealing, a good dish of Mulberries; Mr.

Salama, Hampton, Tomatoes and fruit of what was called the Golden Bush Squash, used as a Vegetable Marrow; and Mr. Kemp, gardener to E. Bentall, Esq., a cluster of Musa Cavendishii, on a stem upwards of a foot in diameter, which had been an unrooted sucker but fourteen months ago. Mr. Sage, gardener to Earl Brownlow, likewise exhibited a cluster of the same Bananas. A good dish of Victoria Red Currant came from Mr. Vertigan, Clapham, also one of Sir Charles Napier Strawberry. In the vegetable department, Mr. Levell, Clapton, exhibited good fruit of Butcher's Black Spine Cucumber; and Mr. Porter, gardener to the Hon. A. Ashley, Copt Hall, Essex, *Resax* Champion, a spineless variety, said to be a wonderful cropper and of good flavour. From Messrs. Barr & Sudden came a collection of Onions; and from Messrs. Cutbush, very fine bulbs of the Nanselma Park Onion, all of which were said to weigh at least 1 lb. each, and one as much as 2½ ozs. The same firm also contributed dishes of their Giant Kidney Bean, which, though the pods were large, was crisp and succulent.

FLOWERS.

In the floral department of the Show there was an evident flatness from its being almost exclusively confined to cut blooms, and another year it might be well to consider whether a judicious introduction of plants in pots along the centre of the tables would not be an improvement.

DAHLIAS.—The stands of these were numerous, and the blooms for the most part excellent. In the class for forty-eight, Mr. Keynes, of Salisbury, was first with fine blooms of Golden Admiration, King of Sweden, Matilda, Queen of Primroses, Delicata, Edward Spary, Barton Taunton, Lord Shaftesbury, Chairman, James Backhouse, Miss Henshaw, Flossy Girl, George White, Leah, Paradise Williams, Mrs. Wyndham, Andrew Dodds, Umpire, John Wyatt, Charlotte Dorling, Annie Austin, Disraeli, Anna Keynes, British Triumph, Lady of the Lake, Freemason, Lady Mary Wyld, George Wheeler, Miss Herbert, Bob Ridley, Lady Palmerston, Criterion, Stella Oeas, Hugh Miller, Ellen Potter, Lilac Perfection, Lady Gladys Herbert, Lord Derby, Princess, Norfolk Hero, Lilac Queen, Sam Bartlett, Peri, Earl of Pembroke, Fanny Purchase, Vice-Chairman, Golden Gem, and Jenny Austin. Mr. Walker, of Thame, was second with stands in which we noticed fine examples of Chairman, Lord Derby, Imperial, Madge Wildfire, and Peri; the third prize going to Mr. Kimberley, of Coventry, and the fourth to Mr. Morse, of Epsom.

For twenty-four blooms Mr. Keynes was again first with excellent examples of Queen of Primroses, Lady of the Lake, Chairman, James Backhouse, Lord Derby, Charlotte Dorling, Lady Gladys Herbert, Golden Admiration, Bob Ridley, Norfolk Hero, Earl of Pembroke, Anna Keynes, George Wheeler, Mrs. Wyndham, Queen of Lilacs, George White, Lady Palmerston, Edward Spary, Vice-President, Miss Henshaw, Delicata, Harriet Tetterell, Leah, and Miss Herbert. Mr. Draycott, Humberstone, Leicestershire, was second with Alexandra, Charles Turner, Lottie Atkins, Imperial Marquis of Bournemouth, George Brown, Lady G. Herbert, Prince of Prussia, Foxhunter, Lord Derby, Miss Henshaw, Juno, Anna Keynes, Norfolk Hero, Fanny Purchase, Lilac Queen, Champion, Model, Charlotte Dorling, Leah, Donald Beaton, Triomphe de Peq, Annie Austin, and Lady Maude Herbert, all of which were very good. Mr. Legge, Edmonton, was third; Mr. Wallat, Thame, fourth; and Mr. C. Kimberley, fifth.

In the Amateurs' class for the same number, Mr. C. J. Perry, Castle Bromwich, was first with fine blooms of Chairman, Arthur, Phidias, Anna Keynes, Andrew Dodds, Master of Arts, Bob Ridley, a pink seedling, Model, Leah, Delicata, Donald Beaton, Miss Henshaw, Messenger, Lady G. Herbert, Lord Derby, Alexandra, Hugh Miller, George Brown, British Triumph, Juno, Criterion, Charlotte Dorling, and Pauline. Mr. Thornycroft, Floore, Weedon, was second; Mr. Hopkins, Brentford, third; Mr. Hedge, Colchester, fourth; Mr. Glascock, Bishop Stortford, fifth; and Mr. Cottis, Newhall, Chesham-ford, sixth.

In the class for twelve blooms, the best stand came from Mr. Thornycroft, the varieties being Lord Palmerston, Volunteer, Fanny Purchase, seedling, Lord Derby, Model, International, Willie Austin, Juno, Miss Henshaw, British Triumph, and Matilda Keynes. Mr. Glascock was second with Goldfinder, Chancellor, Andrew Dodds, Jenny Austin, British Triumph, Garibaldi, Lord Palmerston, Fanny Purchase, Bird of Passage, Delicata, Lord Derby, and Mrs. Bolton. Mr. Lakins, Shooters Hill, was third; Mr. Hopkins, fourth; Mr. Hedge, fifth; and Mr. C. J. Perry, sixth.

Of the Fancy varieties the stands were not very numerous. The best twelve blooms in the Nurserymen's class came from Mr. Keynes, and consisted of Chang, Formidable, Regularity, Lightning, Oceanside, President Lincoln, Remarkable, Lord Warden, Messenger, Butterfly, John Salter, and Ebor. In the corresponding class for amateurs Mr. Perry occupied a similar position with John Bunn, Sam Bartlett, Queen Mab, Octocorn, Pauline, Queen of Sports, Harlequin, Garibaldi, a yellow seedling streaked with crimson, Triomphe de Roubaix, Regularity, and Artemus Ward. Mr. Thornycroft was second, and Mr. Pettfield, gardener to G. Thornhill, Esq., Diddington, third.

A good number of seedlings were exhibited. First-class certificates were awarded to Mr. Keynes for Paradise Williams, and for Princess of Wales, delicate lilac with a white centre, tipped with violet; Vice-President, golden yellow, and Butterfly, reddish orange, received second-class certificates. Mr. Pettfield had a similar award for a pleasing flower, white, tipped with purplish lilac; also Mr. Perry, of

Chelsea, for Pope's Gem, a white and purplish crimson Fancy. Mr. Burgess had likewise a second-class certificate for Mrs. Burgess, violet crimson, tipped with brighter crimson. Vanguard and Bijou from Mr. Wheeler, of Warminster, the former purplish maroon, the latter salmon tinged with lilac, were also awarded second-class certificates.

ASTERS.—The best stands both of German and French came from Mr. Stanford, gardener to J. Thomasset, Esq., Walthamstow, and contained blooms of remarkable size and beauty. In the former class Mr. Benham, Newbury, was second, and in the latter Mr. Hedge; Mr. Jennings, Shipston-on-Stour, and Mr. Minchin, Hook-Norton, being respectively third.

MISCELLANEOUS.—Besides twelve boxes of beautiful cut blooms of Roses, furnished by Mr. William Paul, wonderfully fine for the season, he exhibited fine specimens of Amy Hogg and other Nosegay Pelargoniums, as well as dwarf standard plants of Mrs. Pollock, and some other variegated kinds. A collection of variegated shrubs and Ivies, likewise from the Waltham Cross Nurseries, attracted considerable attention. Mr. Turner, Slough, received first-class certificates for Nosegay Pelargoniums Duchess of Sutherland and Lady Constance Grosvenor, a fine orange scarlet, and Mr. C. J. Perry, one of the second-class for Shirley Hibberd, rosy scarlet. Messrs. Downie, Laird & Laing reproduced their collection of sub-tropical plants exhibited the previous day at Kensington, Mr. Cunningham his pretty Ivy-leaved Pelargonium L'Elegante; and from Messrs. Barr and Sugden and Carter & Co. came plant-cases, flower-baskets, &c. Those from the latter were interspersed with fine-foliaged and flowering plants, forming altogether a very pretty stand. Among other articles of utility was a window box of zinc, with the front enamelled to resemble porcelain, over which it has the advantage of not being so liable to breakage.

THERE is a large class of persons to whom the Crystal Palace Autumn Show presents more features of interest than the great Show in May. There may not be the grand masses of greenhouse and stove plants, and Orchids, Geraniums and Azaleas are of course absent; and these have, comparatively speaking, a small circle, if not of admirers, at any rate of cultivators; but the Rose, the Aster, the Dahlia, the Gladiolus, and the Hollyhock are flowers which the humble cultivator can manage, and often does manage, as well or better than his more aristocratic neighbour, and hence the multitude know more of them and care more for them than those already named. It might have been supposed that the extremely unfavourable season would have seriously militated against this Exhibition, but it was not so. Dahlias were never better, Roses certainly more in character than I have seen them at the autumn show, the Gladioli excellent, although one missed the fine collection of Mr. Standish, Asters were good, and the Exhibition as a whole only presented a great falling off in fruit, which, especially in the out-door department, was scarce, and not up to the quality of former years.

ROSES.—In the class for twenty-four single blooms Mr. Keynes was first with Charles Lefebvre, Louise Peyronny, General Washington, Souvenir de la Malmaison, Vicomte Vigier, Madame Vigneron, Anna de Diesbach, Mdlle. Amélie Halphen, Gloire de Vitry, Gabriel de Peyronny, Gloire de Dijon, Maurice Bernardin, Madame Charles Wood, François Lacharme, Maréchal Niel, John Hopper, Madame Rivers, Centifolia Rosea, Baron P. de Kinkelin, Belle Normande, Duc de Wellington, Madame Rousset, Baron Gonella, and Sénateur Vaisse. Messrs. Paul & Son were second with Madame C. Wood, Duchesse d'Orléans, Maurice Bernardin, Vicomte Vigier, Charles Lefebvre, Gloire de Dijon, Jean Tournais, Madame Rousset, Pierre Notting, Lord Herbert, Souvenir d'Elise, Maréchal Niel, Beauty of Waltham, Souvenir d'un Ami, Madame V. Verdier, Madame Caillat, Dr. Spitzer, Olivier Delhomme, Madame Emain, Baronne Gonella, and Sénateur Vaisse.

In the class for thirty-six, Messrs. Paul & Son were first with Colonel de Rougemont, Charles Lefebvre, Duchesse d'Orléans, Anna Alexieff, Céline Forestier, John Hopper, Madame C. Wood, Lelia, Mr. Victor Verdier, Maréchal Niel, Sénateur Vaisse, Souvenir d'Elise, Pierre Notting, Emotion, Beauty of Waltham, Princess Mary of Cambridge, Duchesse de Medina Celi, Baron Gonella, Queen Victoria, Maurice Bernardin. Mr. Keynes was second.

In the class for eighteen blooms, Mr. Hollingworth, of Maidstone, was first. His flowers were Souvenir de 8 Mai, Sénateur Vaisse, Bougère, Pierre Notting, Gloire de Dijon, Pauline Lantzeur, Madame Boutin, Devoniensis, Madame Caillat, Souvenir de la Malmaison, Olivier Delhomme, Madame Masson, Gloire de Santenay, Madame Villermoz, La Reine, Comte de Paris, Beauty of Waltham, Adam, and Triomphe de Rennes. Mr. Hedge was second with Madame Charles Wood, Triomphe de Rennes, Madame Boll, Prince Léon, Pauline Lantzeur, Beauty of Waltham, Gloire de Dijon, Lord Raglan, Reine Victoria, Pierre Notting, Louise Peyronny, Olivier Delhomme, Eugène Desgaches, George Prince, Souvenir d'Elise, Charles Lefebvre, and John Hopper. Before leaving Roses one must not omit the magnificent box of Maréchal Niel contributed by Mr. Keynes, and a smaller though more highly coloured one by Messrs. Paul & Son. That this is a magnificent and free-blooming Rose does not now admit of a doubt. Mr. Wm. Paul had also twelve fine boxes not for competition.

GLADIOLI.—Some fine Gladioli were exhibited by Messrs. Kelway, of Langport, Messrs. G. Paul & Son, and Mr. Prince. Mr. Kelway had first prize, and amongst his collection were—Ceres, Ophir,

Raphael, M. Rabourdin, James Carter, Calypso, MacMahon, Le Pommier, and Belle Gabrielle. In Messrs. Paul's collection, there were newer kinds, although the spikes were not so long, this included Meyerbeer, Madame de Sévigné, Eurydice, James Veitch, Charles Dickens, Madame Furtado, and other well-known and fine varieties. Mr. Ingle was the only contributor amongst amateurs, while Messrs. Kelway exhibited a large collection, which formed a trophy, that required only a hinting of green to have heightened its effect, and been very fine; it contained a large number of excellent spikes. Mr. Brown, of Sudbury, also contributed a smaller collection.

HOLLYHOCKS.—The Rev. E. Hawke, Willingham Rectory, was as usual first, his flowers both in twenty-four and twelve, were remarkably fine, and comprised Charmer, Acme, Hercules, Invincible, George Young, George Keith, Lilac Perfection, Orange Perfection, Mr. J. B. Ullett, Willingham Defiance, W. Dean, Senior Wrangler, Fair Ellen, Prince, Countess of Craven, Amber Queen, and a number of seedlings. The incessant rain must have been very much against these flowers, but they were shown remarkably clear and good.

VERBENAS.—Mr. Perry was the only exhibitor whose flowers were worth looking at; they were Aimé, Magnifica, Géant des Batailles, Lilac King, King of Verbenas, Premier, Fairy, Admiral of the Blue, Lord Leigh, Rose Imperial, Wonderful, Snowball, Foxhunter, Charles Turner, Ruby King, Sylph, Mr. Dean, Black Prince, Annie, and some seedlings. He sustained his usual high character as the prince of cultivators in this class of flowers.

The day was tolerably fine, and the whole of the arrangements bore witness to the care, attention, and courtesy which always mark the Crystal Palace Shows, thanks to the untiring energy of Mr. Wilkinson, and his staff of assistants.—D., Deal.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.

THE great autumn competition of this Society took place, the plants being in the Music Hall, and the fruit in the adjoining Assembly Room, in George Street, Edinburgh, on the 5th and 6th inst. It was expected that as the prize schedule was not on so liberal a scale as last year, when a special effort was made, that there would be a great falling off in the extent and quality of the subjects exhibited. The former expectation was realised to some extent, but not the latter. There was a falling off as regards Pears and Apples, and not quite so many Grapes were exhibited. There were 100 entries this season against 180 last year. Pines were much more numerous and of much higher quality; Peaches and Nectarines not so numerous, but, on the whole, the room looked much better than last year, when every corner had to be crowded, so that fruit did not appear to such good advantage as this year. We have said the Grapes were not so abundant as last year, but they made up in quality for what they lacked in quantity.

In the collection of eight sorts of Grapes, Mr. Fowler, of Castle Kennedy, was the only exhibitor. His sorts were Black Hamburg, 1½ lb. weight; Golden Hamburg, 1½ lb.; Black Morocco, 2 lbs.; Trebbiano, 4 lbs.; Black Muscat, 4 lbs.; Muscat of Alexandria, 3 lbs.; Black Prince, 3½ lbs.; and Duchess of Buccleuch, 3½ lbs. This was a splendid collection of Grapes. In the four sorts of Grapes there were five competitors, Mr. Meredith, of Garston, being placed first with finely finished bunches of Black Hamburg, Trebbiano, Burchard's Prince, and Muscat of Alexandria. For the heaviest three bunches, Mr. Fowler was first with White Nice, 10 lbs.; Black Muscat, 6 lbs.; and Trebbiano, 6 lbs. For the heaviest bunch of White, Mr. Fowler was first with White Nice, 10½ lbs. For the best two bunches of Black Hamburg, Mr. Meredith was first with noble examples of that Grape; and Mr. Hill, Keale Hall, second. We have often seen larger bunches, and there were plenty such in the room, but never finer berries or more perfectly finished bunches. In the collection of the various sorts of Black Hamburg, Mr. Meredith was first; Mr. Mitchell, second. In collections of White Muscats, Mr. Fowler was first with Tynningham Muscat, Bowood Muscat, Muscat of Alexandria, Escholata Muscat, and Canon Hall Muscat.

For the chief prize of the day, the collection of twenty sorts of fruit, there were three competitors, Mr. Thomson, Dalkeith, being first; Mr. Murray, of Taymouth Castle, second; and Mr. Mitchell, of Hamilton, third. In the class for sixteen sorts of fruit, excluding Pines, Mr. Temple, gardener, Balbirnie, was first. In this class there were seven competitors. Prizes being offered for the best White and the best Black seedling Grapes, Mr. Fowler exhibited for the former, and Mr. Melville, of Dalmeny Park, for the latter, and got the prizes offered. We think it would be much better to withhold prizes for seedlings unless they possessed some very evident superiority over existing varieties, which in the instances referred to was not the case. Mr. Webster, gardener to the Duke of Richmond, at Gordon Castle, exhibited a box of seedling Plums, one of which was considered of first-rate quality, and was named Webster's Gage. We tasted it, and can endorse the finding of the Judges in this case.

Though this Show is chiefly famous for the display of fruit which it calls forth, it was also a fine Exhibition, for the season of the year, of fine-foliaged plants, and plants in bloom. The Heaths and ornamental-foliaged plants were greatly admired for the excellence of their culture. Messrs. Downie, Laird, & Laing were almost alone in their glory in the Nurserymen's classes for Hollyhocks, Dahlias, and

Gladioli. Of Hollyhocks, they exhibited and had certificates for three splendid seedlings, one named Mr. Hastie, one William Thomson, and the third James Anderson. These were very large fine-formed flowers, remarkable for substance and symmetry. Mr. Richard Hartland, Lough Nurseries, Cork, exhibited a variety of Wellingtonia gigantea with variegated foliage and branches, the variegation being of a beautiful golden colour. This plant was very much admired. Had it been entered before the Judges made their awards, there is no doubt a certificate would have been given to it.

On the evening of the first day of the Exhibition the members of the Society and the Judges dined together in the Waterloo Hotel, James Smith, Esq., W.S., in the chair, Professor Douglas McLaggan, croupier, when a variety of appropriate toasts were given, and the evening was spent in a way that gave great satisfaction to all present.

Subjoined is a list of the prizes awarded on the occasion:—

PINE APPLES: Two Queens.—First, R. Fowles, Fordell. Second, J. Peacock, Castledykes, Dumfries. Third, W. Thomson, Dalketh. Two Smooth Cayenne.—Prize, J. Munro, Liverpool.

GRAPES: Eight varieties, one bunch of each.—Prize, A. Fowler, Castle Kennedy. Four varieties, one bunch.—First, J. Meredith, Garston. Second, J. Turner, Riddell, Selkirk. Third, J. Temple, Balbirnie. Three heaviest bunches.—Prize, A. Fowler. Black Hamburg. Two bunches.—First, J. Meredith. Second, W. Hill, Keele Hall, Staffordshire. Third, A. Fowler. Muscat of Alexandria. Two bunches.—First, J. Macdonochie, Cameron House. Second, A. Fowler. Third, Rev. — Bushby, Dalketh. Muscat Hamburg. Two bunches.—First, J. Turner, Riddell, Selkirk. Second, D. Morrison, Inchmartine. Third, A. Fowler. True Tokay, Bunch.—First, J. Meredith. Second, D. Mathieson, Tulliallan. Black Hamburg. Bunch.—First, J. Meredith. Second, W. Hill, Staffordshire. Third, J. Temple, Balbirnie. Muscat of Alexandria. Bunch.—First, A. Anderson, Torwoodlee. Second, A. Fowler. Third, J. Macdonochie. Black Alicante. Bunch.—Prize, G. Young, Westland House, Dalketh. Black Heaviest Bunch.—Prize, A. Fowler. White, Heaviest bunch.—First, A. Fowler. Second, J. Laing, Pitlochrie. Equal Second, J. Mackay, Keith. White, Finest-flavoured bunch.—First, N. Black, Dalhousie. Second, D. Mitchell, Hamilton Palace. Third, A. Anderson. Black, Finest-flavoured bunch.—First, J. Laing. Second, D. Morrison. Third, A. Fowler. Black, Bunch with finest bloom.—First, G. Young, Westland House. Second, J. Meredith. Third, J. Turner. Black Hamburg, Collection of Varieties.—First, J. Meredith. Second, D. Mitchell. White Muscat, Collection of Varieties.—First, A. Fowler. Second, D. Mitchell. Grape, Bunch of any, not named in the schedule.—First, A. Fowler. Second, D. Morrison. Third, D. Mitchell. White Seedling, Two bunches of any, not yet offered to the public.—Prize, A. Fowler. Black Seedling, Two bunches of any, not yet offered to the public.—Prize, W. Melville, Dalmeny.

Collections of twenty sorts of Fruits; not more than four sorts of Grapes, two of Pines, and two of Melons.—First, W. Thomson, Dalketh Park. Second, P. Murray, Taymouth Castle. Third, D. Mitchell, Hamilton Palace. Collection of sixteen sorts of Fruits, exclusive of Pines.—First, J. Temple, Balbirnie. Second, J. Mitchell, Newbyth. Third, J. Mackay, Keith.

Pot-grown Vines in Fruit, Black.—First, J. Gordon, Niddrie House. Second, J. Laing, Bowerhouse. White.—Prize, J. Gordon.

Thirty sorts of Fruit by Fruit Merchants.—First, W. Brown, Fruiterer, Edinburgh. Second, Cairns & Sons, Edinburgh.

Malon Green Fleeced.—First, J. Mathieson, Barton. Second, J. Laing. Scarlet Fleeced.—First, J. Colburn, Gorgie. Second, T. Shannon, Redhall.

Twelve Figs, three sorts.—Prize, D. Mathieson, Tulliallan Castle.

Twelve Peaches, two sorts.—First, D. Ross, St. Martin's Abbey, Perth. Second, J. Laing.

Twelve Nectarines, two sorts.—First, R. B. Annandale, Seaton House, Arbroath. Second, J. Laing.

Twelve Apricots, two sorts.—First, J. Cumming, Newbyth. Second, J. Mitchell, Amisfield.

Twelve Plums, in four sorts.—First, R. Ramsay, Mountstuart, Rothessay. Second, J. Temple, Balbirnie.

Six Peaches, any sort.—First, A. Heathe, Eldon Hall; Second, J. Turner, Riddell.

Six Nectarines, any sort.—First, R. B. Annandale, Seaton House. Second, J. Laing.

Six Jargonelle Pears, fit for table.—First, R. Ramsay, Mountstuart. Second, J. Fowler, Mavisbank.

Twelve sorts Pears, three of each, ripe or unripe.—First, R. Ramsay, Mountstuart. Second, D. Ross, St. Martin's Gardens. Third, J. McMillan, Erskine.

Twelve sorts Dessert Apples, three of each, ripe, or unripe.—Prize, R. Ramsay.

Twelve sorts Baking Apples, three of each, ripe or unripe.—First, R. Ramsay. Second, J. Fowles. Third, A. Kerr, Saughton Hall.

Six Dessert Apples, two sorts, fit for table.—First, R. Ramsay. Second, A. Kerr.

Pint of Gooseberries.—First, G. Smith, Clermiston. Second, R. Ramsay.

Pint of Red Currants.—First, R. Ramsay. Second, A. Thomson, Woodburn, Dalketh.

OPEN TO GARDENERS AND AMATEURS.

Six Stove and Greenhouse Plants in flower, exclusive of Fuchsias, Calceolarias, and Geraniums.—First, W. Thomson, Dalketh. Second, J. Fowler, Mavisbank. Third, N. Black, Dalhousie.

Three Cape Heaths, of sorts.—First, W. Thomson. Second, J. Currie, Seabury Green.

Six Plants with fine Foliage, of sorts.—First, W. Thomson. Second, J. Currie.

Six Ferns, of sorts.—First, W. Thomson. Second, J. Currie.

Two Fuchsias, of sorts.—First, — Glochrist, Duddingston House. Second, J. Mathieson, Barnton.

Three Pots of Achimenes, of sorts.—First, W. Thomson. Second, J. Gordon, Niddrie House.

Four Zonale or Bedding Geraniums, of sorts.—First, W. Laird, Kinnellan. Second, J. Gordon.

Four Variegated Geraniums, of sorts.—First, W. Laird. Second, T. McGuigan, Woolmet.

Three Lilliums, in pots, of sorts.—Prize, J. Gordon.

Twelve Cat Roses, of sorts.—First, G. Barrie, Corstorphine Hill. Second, D. Campbell, Alloa.

Twenty-four Gladioli, of sorts.—First, J. Taylor, Inveresk. Second, W. Reid, Newhall.

Twelve Quilled Asters, of sorts.—First, J. Taylor. Second, D. Campbell.

Twelve Chrysanthemum-flowered Asters, of sorts.—First, J. Jones, Bangholm Bower. Second, D. Campbell.

Six Phloxes, of sorts.—First, G. Smith, Corstorphine. Second, J. Gordon.

Nine Spikes Hollyhocks, of sorts.—First, J. Allan, Belchester. Second, J. Thompson, Preston Tower, Northumberland. Five spikes Hollyhocks, of sorts.—First, J. Allan. Second, J. Thompson. Twelve Hollyhock Blooms, of sorts.—First, A. Kerr, Saughton Hall. Second, T. Shannon, Redhall.

Eighteen Dahlia Blooms, of sorts, exclusive of Fancies.—First, A. Kerr. Second, A. Glen, Rosehall.

Twelve Dahlia Blooms, of sorts, exclusive of Fancies.—First, W. Vair, Pitferran. Second, — Buchanan, Kincairdine. Third, — Mercer.

Twelve Fancy Dahlias, of sorts.—First, W. Vair. Second, A. Kerr. Third, A. Glen.

FOR NURSERYMEN ONLY.

Eleven spikes Hollyhocks, of sorts.—Prize, Messrs. Downie, Laird, and Laing, Edinburgh.

Twenty-four Dahlia Blooms, of sorts.—Prize, Messrs. Downie, Laird and Laing.

Twelve Blooms Fancy Dahlias, of sorts.—Prize, Messrs. Downie, Laird, and Laing.

Fifty Gladioli, not more than two of a sort.—Prize, Messrs. Downie, Laird, and Laing.

OPEN TO GARDENERS AND AMATEURS.

Two Cucumbers.—First, J. Allan, Belchester. Second, J. Shannon.

Cauliflowers.—First, J. Brydon. Second, J. Fowler.

Beetroot.—First, J. Pow, Hanley, Corstorphine. Second, J. Jones, Bangholm Bower.

Six Leeks.—First, J. Mathieson. Second, A. Thompson.

Twelve Onions.—First, W. Vair. Second, W. Gray, Craig Park.

Collection of Salads.—First, D. Mathieson. Second, J. McMillan, Erskine.

Twelve sorts of Vegetables.—First, D. Mathieson. Second, J. Shannon.

AMATEURS ONLY.

Basket eight sorts of Vegetables.—First, T. Fairley, Henderson Row, Edinburgh. Second, T. Chisholm, Dalhousie.

Six Gladioli.—First, T. Fairley. Second, T. Chisholm.

Six Rose Blooms.—First, J. Hay. Second, T. Chisholm.

Six Dahlias, of sorts.—First, R. Buchanan. Second, T. Fairley.

Six Phloxes, varieties.—Prize, T. Fairley.

Special awards for articles not specified in the prize schedule:—

Plums.—Prize, J. Laing, gardener to P. Dalmahey, W.S.

Yellow Follaged Bicolor Zonale Geranium.—First-class Certificate, W. Young, Assistant-Secretary.

Verbenas—"Blondin" and "Cherry Ripe," the first bright scarlet and white eye, and the second rosy peach, with a very light white eye, a very promising flower.—First-class Certificate to Mr. Fowles, of Fordell.

Hollyhocks—"William Thomson," deep rose and crimson; "Mr. Hastie," light rosy peach; "James Anderson," bright rose and blue.—First-class Certificates to Messrs. Downie, Laird, & Laing.

EXHIBITING KITCHEN-GARDEN PRODUCE.

At a recent horticultural show which was held at Northleach, the greater portion of the vegetables, such as Potatoes, Turnips, Carrots, Parsnips, and Onions, were cleansed by washing. This practice was much condemned by some of the judges, who are all professional gentlemen, but not by the others; and at a previous exhibition one of them said that if the articles were dirty he should not touch them. This difference of opinion among the judges makes exhibitors uncertain which course to pursue. Will you give us the benefit of your opinion? or inform us how these matters are conducted at large shows?—**GEORGE CHILDE.**

[At all the leading exhibitions the tubers and bulbs are washed; and this is desirable not only for the sake of appearance, but because it facilitates the determination whether they are diseased.—**EDS.**]

GROWING GRAPES, PEACHES, AND NECTARINES IN THE SAME HOUSE.

THIS is the second year I have accomplished the above satisfactorily, and my trees being planted in the border have not the same chance as if in pots, still the fruit on all the trees is abundant, and of good flavour, and excepting where the trees were moved last autumn, it is also large. The circumference of some of the trees is 30 feet, and the stems are 4 inches in diameter.

I manage the Vines thus: They are planted 5 feet apart—thirty Vines in all—the stems are trained from 18 to 20 inches from the glass, and the laterals are drawn up to a wire on each side nailed to the plate and ridge. I have thus 3 feet of light

between each Vine. I do not recollect that a single lateral was broken in the tying.

Supposing the trees were planted in pots, and taken out of the house to ripen their fruit, we should then have a secured crop with the highest flavour. A Quickset hedge, planted on purpose, with the ends returning a few feet, would probably answer as well as anything. As all my water has from 30 to 50 feet of pressure I have no difficulty in watering a large space of fruit trees if necessary. In pot-culture we are able to move the trees on all sides to the light, and thus obtain a high flavour in every part of the fruit.—A CONSTANT READER.

BROWN TURKEY FIG.

I HAVE long been convinced that two distinct Figs are cultivated under the same name, and I send you a specimen of each. They are taken from two potted plants growing side by side. Possibly a comparison of these two solitary specimens will hardly convey an adequate impression of their difference; but this difference was shown very strikingly at the Crystal Palace on the 5th of September, where the dish exhibited by Mr. Turner was of the sort marked No. 1, and Mr. Dennis's prize dish of No. 2. The latter is the Fig which is imported from the Channel Islands into the London market, and which forms the staple of the Fig gardens at Taring. It is much longer than the other, and more juicy, to my taste decidedly superior. Its colour is between purple and green, and upon cutting it open the flesh, particularly near the eye, is dark purple. No. 1 is flatter at the apex, and brown or reddish brown both inside and out. Its consistence is fleshy; but when highly ripened, which I fear the accompanying specimen is not, it is very saccharine. I would suggest that the name Brown Turkey be confined to No. 1, while No. 2 might be called the Common Purple. The latter name would be at least descriptive, for it is the only Fig in England both purple and common. I imagine that old Miller was well aware of the difference, for although he does not name the Brown Turkey, I conceive that he describes it as his No. 7, and calls it Murrey or Brown Naples. The blue or purple Fig he mentions by name. The Castle Kennedy Fig, again, is his No. 1, and called by him Large Brown Ischia.

Having alluded to the Crystal Palace Show, I would add that the two dishes furnished by Mr. Dennis, one of Brown Turkey and the other of Brunswick, were the finest I ever saw either in this or any other country. Their intense colouring in this seasonless season was remarkable. Among the other exhibitors there were several instances of misnomers; the two varieties correctly named by Mr. Dennis doing duty elsewhere as White Genoa, Black Turkey, &c.—G. S.

[The two Figs are doubtless quite distinct. That marked No. 1, and which was exhibited by Mr. Turner, appears to us to be either l'Archipel, or St. Ursule d'Avignon. We should rather incline, in absence of the foliage, to the supposition that it is the former.]

THE BEST ROSES.

THE colours can be seen in any catalogue.

Bourbons.—Acidale, Souvenir de la Malmaison, and Baronne Genelle.

Tea-scented Noisettes.—Solferino, Triomphe de Reims, Celine Forestier, and Gloire de Dijon.

Hybrid Perpetuals.—Charles Lefebvre, Senateur Vaisse, Professor Koch, Prince Camille de Rohan, Sœur des Anges, Pierre Notting, Madame Victor Verdier, La Ville de St. Denis, Cecile de Chabillant, Maurice Bernardin, Duc de Cazes, Duc de Rohan, Duchesse d'Orleans, Jules Margottin, Maréchal Vaillant, Madame Boukin, Caroline de Sansal, Madame Boll, Alfred de Rougemont, Souvenir de Comte Cavour, Baronne Prevost, Comte de Nanteuil, W. Griffiths, Monsieur de Montigny, Lord Clyde, Lord Macaulay, Madame Knorr, Victor Verdier, Madame Clemence Joigneux, Souvenir de la Reine d'Angleterre, Baronne Pelletan de Kinkelin, Madame C. Crapet, General Washington, Leopold Premier, George Prince, Duchesse de Caylus, Rushton Radclyffe, Duc de Wellington, Mademoiselle Amélie Halphen, Glory of Waltham, and Madame Moreau.

From sight only I recommend Marguerite de St. Amand, Monsieur Boncenne, Rosa alba, and Alba mutabilis. The last two are Tea Roses, and were very good in pots at the International.

I do but little in Tea Roses. Sombreuil is a very hardy excellent white Rose. These appear to be the élite of such as

I know: Devonians, Madame Willermoz, Souvenir d'Elise, Souvenir d'un Ami, Adam, La Boule d'Or, and Rubens.

At the National Rose Show Mr. Hedge's L'Enfant Trouvé, and Souvenir d'Elise, and Mr. Moffat's globular specimen of Gloire de Dijon, were masterpieces. Tea Roses may be grown out of doors under certain conditions, but their proper place is under glass, for which purpose they are the best of all Roses. It is a pity that there are not among them any full-sized high-coloured Roses.

The Bourbons, Tea-scented Noisettes, and Hybrid Perpetuals, recommended above, are all excellent, and of good growth, constitution, and habit. Washington does not always open freely, but it is a grand Rose, a huge red turban. All the rest are free and constant bloomers.—W. F. RADCLYFFE, Okeford Fitzpaine, P.S.—I saw at Rushton two plants each of Glory of Waltham and Madame Moreau, in splendid bloom.

GERANIUM PRATENSE AND SYLVATICUM. VIOLA CORNUTA.

As the subject of carrying improvement as far as possible into the class of Geraniums used for bedding purposes is now receiving much attention, would it not be worth while to call in the aid of species hitherto despised or not cared for, and ascertain if something could not be obtained from them? Hitherto improvement has run in one course, or nearly so, and it must be admitted that the alteration is so great that the original can scarcely be recognised; still, further advance seems to be the order of the day, and the industry of hybridisers is now and then rewarded by something fresh. The introduction of Flower of the Day formed a feature, which, followed by Osborn's Brilliant, led the way to many other improvements; and here I would ask, Is there any Geranium of the present day more prolific than the old Brilliant? I do not know of any. Golden-leaved varieties have also multiplied, and seem likely to do so, and I suppose that by-and-by the zonal marking on the foliage of Geraniums will have to conform to a clearly-defined line, with no jags or running, but accord with strict rule, like prize Tulips thirty or forty years ago.

Be this as it may, assuredly there is still room for exploration in fresh directions—some openings for a wide departure from the route taken by the generality of hybridisers. I have already pointed out the Ivy-leaved section as deserving notice; also the small-leaved class represented by Shrubland Pet, in which scent as well as beauty forms an important point; but I am now anxious to draw attention to a member of the Geranium family still further removed from the brotherhood of ornamental objects, in fact, I am disposed to ask these having the means and the opportunity to call in the aid of one of our British species—a common weed, and ask them to experiment with it, and who knows whether something very ornamental may not be produced? The Pansy and Carnation, I believe, both owe their present degree of perfection to the long-continued exercise of skill and care on the part of cultivators, both being of British origin, and why not a Geranium? Our moist meadows and woods contain members of this family, possessing a colour which none of our cultivated ones has yet approached. Geranium sylvaticum and G. pratense, both British plants, have flowers of a pretty bluish purple hue, just that which is wanted among our bedding plants; and to convert the thinly-clad spike of flower into the compact corymb of the cultivated varieties, presents difficulties no doubt, but the colour is worth the attempt, and if either of these wild species could in any way be made to assist in the production of a Zonal Geranium, having flowers of the same hue as itself, a great boon would be conferred on the public.

I think I have stated that most of the colours from white up to scarlet have pretty good representatives, and but little further improvement is wanted, or, shall I say, necessary; but in those classes which may be called a purplish crimson, further advance is certainly desirable, and if these wild Geraniums of a tolerably good blue can be made serviceable, why, then, perhaps a step towards perfect hardness may also be made.

Geranium pratense and sylvaticum, I have not seen for many years, and I could not find them in the few places where I had a chance to look for them at the time they would be in bloom—namely, early in June; but I hope others know where to look for them. I have seen them flowering beautifully in moist meadows and hedgebanks in the north of England many years ago; but doubtless Mr. Wills may find them out, and by no means is it more likely that their beauties will be turned to account.

Whether he accomplish the object by crossing with some existing garden ornament, or by improving them, must be left to the skill of the operator, subject of course to such natural laws as cannot be overstepped. However, I trust that these Geraniums will in some way be made use of, and I have more hopes of seeing a blue Geranium than a yellow one, although the latter has the start, and already has a representative by name. Perhaps other species of Geranium may also be the subjects of experiment. I think some one ought to take a step out of the beaten track; the breeding-in-and-in system has continued so long that great advances can hardly be looked for; but a new field presents itself in the way here indicated, and I trust that experiments will result in something entirely different from what we now possess.

Apart from the above, but, nevertheless, recommended as a useful auxiliary to the flower garden, is *Viola cornuta*, respecting which Mr. Wills invites opinions. Unfortunately, I cannot on my experience give so decided an opinion as I would like, for having unfortunately planted it in a situation to which rabbits had access, they have eaten off all the flowers, or shoots that would have produced bloom. I can therefore only give my opinion as to its habit, which is all that can be desired, and the plant seems as easy of culture as the *Cerastium*. If it should prove as free a bloomer as it is good in habit, it will be a great boon to the numerous class of flower gardeners, who have already overcharged their means of keeping tender plants during the long winter months, and who will gladly accept a plant that requires so little looking after as this *Viola*. Its flowering capabilities, however, must decide its merits, and for the reasons above given I am, unfortunately, unable to say anything about the plant in that respect.—J. Rouson.

LOBELIA SNOWFLAKE.

In reply to a letter published in THE JOURNAL OF HORTICULTURE of August 28th, respecting the failure of *Lobelia Snowflake*, I now write to say that it was planted in our garden round *Cerise Unique* Pelargonium, but by its bad form of growth it completely spoiled the look of the border. I should be glad to know of any free-blooming white flower, suitable for an edging in a summer garden, white-leaved and variegated plants not answering the purpose.—L. H. M., *Pole Hill, near Uxbridge*.

I HAVE grown the above *Lobelia*, and as far as my experience goes it has proved a failure for bedding-purposes. With me it grows too tall—in many instances 18 inches high, and its flowers being on slender footstalks fall with the first shower, never to rise again. It is not a free bloomer, and the seed-pods are so large as to make it an unsightly object. I have proved it to be a good pot plant. I intend to try it from cuttings if possible, in order to keep it dwarfier and to make it flower more freely. Unlike your correspondent Mr. Drabble, I have not found it liable to die off; on the contrary, it is too free in growth.—THOMAS RACON, *Haslemere, Kent*.

If I recollect aright, this *Lobelia* when first sent out was described as equal to *Lobelia speciosa*, but Mr. Drabble has given its true character. I have tried it this summer, fortunately on a limited scale, and I have seen it in several other places under more or less favourable circumstances, and in every case it has been condemned. It does not approach *Lobelia speciosa* either in habit or bloom. It seems to be of the *Ramosa* race, is of a thin upright habit, a spare bloomer, and when seen at its best has a dirty shabby appearance. Where its colour is an object, I do not think any one will use it in future who can procure either *Alyssum* or *Cerastium*, which are infinitely superior to it as bedders.—J. S. Wortley.

MANURING FOR STRAWBERRIES.

In reply to your correspondent "Aenza," as to whether Strawberries like manure or not, perhaps I may be allowed to give my opinion on the subject. Certainly they do like manure, and plenty of it too, if it only be of the right sort, but formerly it was, I believe, thought a mistake to give them manure at all, for I well remember when I first had to do with Strawberry planting, that the only manuring the land received previous to planting, was a good dressing with some of the strongest dry we could procure, and that was the best way

to obtain a crop of fruit on that land, as it was a very light peaty soil. I have now proved that on any stiff soil (such as I have to deal with), Strawberries will be all the better if the soil is well manured in addition to being very deeply trenched, for the land which I planted last season received a dressing of thoroughly rotten cowdung, such as I never saw laid on, land for any crop. The result was, that the plants this summer produced a crop of fruit far surpassing any I ever saw here or elsewhere, for size, quantity, and quality, and they did not suffer in the least from drought. I have no doubt that this was owing to deep trenching and the good manure. Cow-manure is, I think, far better than horse-manure, as the latter tends to make the ground light, and I am convinced that it cannot be kept too firm and solid, for heavy as my soil is, I always give it a good treading prior to putting in the young plants.

I am glad to notice that Mr. Keane recommends a similar method of planting.—W. LAWRENSON.

EFFECTUAL THOUGH ECCENTRIC.

"A CORRESPONDENT," probably a schoolmaster, writes to us thus—

"I have no fault to find with the working abilities of a jobbing gardener whom I employ, but I do complain of his orthography, notation, and making a hoe an interjection! For a week's work, some *Lobelias*, and his boy's help, he charged 22s. after this fashion—

"Wun wick	51
Lubbeelers	5
Sun's ohing	2
	22

We sympathise with our correspondent, but his pain may be assuaged by finding that another gentleman, an American, had his love of the correct still more grossly outraged by the following account being sent to him:—

"aosaada	1 50,
atacknomomagin	50
Paide, Josef Jann	2 00

"The items of that bill are not apothecaries' articles, as might be supposed; but merely, 'A horse half a day and a taking of him home again.'"

The correspondent we have quoted from, concludes with this backhander to parochial seminaries: "My man was a national school scholar." The only just inference from the facts is, he did not make good use of his advantage. Not so, a co-labourer, who is said to have sent the following to his employer:—

Grattham, October 5.

Mr. W.....	To W. W.....	s. d.
Five days work at digging Docks,		
Piling Beam sticks into cocks,		
Drawing Loads and trimming ditto,		
(Easy work that I could sit to,		
Hugging Cartet tops away)		
To be burnt shewing day,		5 0
Turning manure with a stick up,		
Irish Aprilots to pick up,		
Many other trifles also,		
Work that Head will hardly call so,		
But I think, as I hope to thrive,		
There's quoniam suff. for shillings five.		

CULTIVATION OF THE FIG TREE ON OPEN WALLS.

THE cultivation of the Fig has been frequently noticed in these pages, still we often see trees covered with useless spray, having little fruit, and causing the amateur much disappointment.

The Fig will generally bear an abundant crop, which will ripen in September or October if attention be paid in June to the pruning. The top of every spring shoot of a tree with one stem should be pinched off after it has attained three or four leaves. From the pinched shoot two or three short-jointed shoots will be sent forth, each of which will produce two or three Figs in the following year. The Fig which is produced at the base of the midsummer shoot should be removed as soon as it appears, for the ripening of the second crop in the open air is not to be expected; but the third crop, which will be rather larger than Pears in the autumn, will, provided the tree be protected in the winter, become ripe in the July or August of the following year. These, however, are generally

small in number and in size, and unequal in flavour to those which ripen in September. The fruit of the Fig is apt to fall off. The tree requires much water.—J. J. T.

[We prefer pinching the end of the shoot before it has made the leaves.]

GRASSES FOR LAWNS.

(Continued from page 167.)

POA NEMORALIS ANGUSTIFOLIA (Narrow-leaved Wood Meadow Grass).—This is perhaps the most valuable of all grasses to the gardener, as it grows better than any other in shady places, but will also thrive in those which are much exposed; indeed it will succeed almost anywhere, forming a close and beautiful green turf. Its chief value consists in its suitability for shady lawns, for growing under groups of trees in parks, and for woods, in order to encourage game. Its description is as follows:—Root



fibrous, scarcely creeping. Whole plant very slender and delicate, 1½ or 2 feet high. Stems several, erect, slightly flattened, smooth, streaked, leafy, with four or five joints. Leaves almost all on the stem, grass green, long, narrow, flat, with three principal ribs and many intermediate ones; more or less rough, especially the midrib and edges; tapering to a fine slender point; the lowermost smooth at the back. Sheaths hardly so long as the leaves, flattened, nearly smooth. Stipula very short in all the leaves, and inclosed within the sheath, but visibly notched along the margin. Flower-head a panicle, erect, or slightly drooping to one side, very slender, with numerous, half-whorled, angular, rough, wavy, compound branches. Spikelets erect, pale green and white, with a purplish tinge, their general surface shining, and nearly smooth. Calyx of two unequal spear-head shaped, taper-pointed, almost awned valves, each with three ribs; the keel, or central rib, rough; the margin of the larger, or innermost, much swollen and membranous. Florets two or three, rarely four. Outer valve of the corolla-spear-head shaped, acute, with five ribs, of which the two marginal ones and the keel are finely silky at their lower part, the two intermediate ones smooth, and not very conspicuous unless the glume be held against the light; inner valve narrow, rough-edged, cloven at the point. The base of each floret is some-

times, not always, hairy, but there is no complicated web. Stigmas large and tufted. Nectary of two acute cloven scales.—G. ARREY.

(To be continued.)

POT-CULTURE OF PEACH TREES UNDER GLASS.

As everybody is talking of pot Peach cultivation, some approving, some condemning, and some undecided, I am induced to send you a specimen of Royal George, Royal Kensington, Millet's Mignonne, and Noblese, in order that you may have some idea of their success here (Perthshire).

My experience convinces me that Peaches may thus be grown with as much certainty of crop, as trees covering walls and trellis with root-rambling freedom, provided moderate quantities are taken, the product of the circumference by half the diameter in feet being equal to the very highest number that ought to be left, if good presentable fruit be the object, and if something very fine must be had, that amount must still be moderated. Eighty and one hundred fruit per tree is absurd, as any lady or gentleman will find, should a house be incautiously filled with trees already furnished with fruit to that amount. Consult the Kentish Peach and Apple farmers, as well as those whose interest it is to dispose of their stock.

I find flat-roofed and permanently open-sided houses are not suitable to this part of the country, as some empty, and some full of nothing but what will succeed as well outside as in, will show. If no fire heat is to be used, the houses should be set to the equatorial noonday sunbeams, or even 10° further back (22nd February), and there should be full power to shut out the cold air when necessary. What good is there in raising heat in one part, if only to raise a current in another to carry it off? Objection may be taken to the circumscribed area of flooring in these high pitches, and what is lost in that is more than compensated in the use of the wall, and a more genial and effective heat.

It has been said that pot Peach trees cannot be exhibited in fruit. I took some last year, the distance out and home over highway, rail, and causeway being some 130 miles, without losing one-tenth, and within three weeks of their being ripe. With loading and unloading, they were shifted seven times. They are quite as easily carried as plants in flower.—PERTH-SHIRE.

[These were very fine specimens, all of them from 9 to 9½ inches in circumference. Royal George and Millet's Mignonne are the same.]

NOTES AND GLEANINGS.

In consequence of the failure of the crops at Chiswick this season, the trial of Peas, which was looked forward to with some degree of interest, has not been made. The first crop sown was entirely devoured by grubs and slugs notwithstanding the close vigilance of those under whose care it was placed; and the second sowing was so affected with mildew that no correct observations could be made. Arrangements have been made for another attempt next season, which it is hoped will be more successful; and it is intended that all the early varieties shall be sown in autumn for the purpose of ascertaining which is best adapted for winter sowing. Those who are possessed of new varieties and are desirous that they should be included in the trial, should at once forward a small parcel of each to Mr. Barron, at Chiswick.

It is with much pleasure we announce, that the great collection of Ferns, as well as phenogamous plants, formed by Mr. John Smith, the late Curator of the Royal Botanic Garden at Kew, has been purchased for the national collection in the British Museum. Such a collection of Ferns as Mr. Smith made during a long and laborious life is, we believe, perfectly unique.

We regret to have to announce the death of Mr. J. J. Blandy, of Reading, who has long taken a prominent part in horticultural matters in this country. For many years Mr. Blandy was a Member of Council of the Royal Horticultural Society, for which to the last he retained a strong attachment. He was also the deputy chairman of the Committee of the International Horticultural Exhibition. He died at his residence, at Highgrove, on the 2nd inst., aged 73.

Two physicians, Drs. Sigerson and Divers, state, in a

communication to the *Athenaeum*, that the leaflets of the Sensitive Plant do not close if touched by a piece of glass, as they do if touched by the finger or a piece of iron. If further experiments confirm this statement, their conclusion is legitimate that the motion of the leaflets is caused by the passage of electricity between the points of contact.

OZONE is known only by its effects. There is a peculiar smell elicited when an electric machine is in operation, and that smell is said to arise from ozone; its very name has been derived from that quality—*ozo*, I smell—but no one has hitherto succeeded in showing more than its effects. It is never detected except where oxygen is present, and if oxygen be not an elementary body, ozone may be one of its constituents. However, whatever ozone may be, Mr. Glaisher stated at the recent Meeting of the British Association for the Advancement of Science, that "where he found ozone in the atmosphere, there he found health; but where ozone was absent, there he found sickness prevailing." This observation was made at the conclusion of a lecture delivered by Dr. Daubeny, in which he stated that part, at least, of the ozone present in the atmosphere is derived from plants, their green parts generating ozone when they emit oxygen. He had found this to be so in fifty-seven species of plants belonging to forty-seven different natural families. The ozone was generated by the leaves, and not by the flowers of any of the plants. One inference made by Dr. Daubeny is that plants are the appointed agents not only for restoring the oxygen to the atmosphere, which animals in breathing have withdrawn from it, but also for generating ozone, and by it removing the noxious effusions from the processes of animal life and putrefaction.

WORK FOR THE WEEK.

KITCHEN GARDEN.

The long-continued wet weather has favoured the growth of weeds, and rendered their destruction a matter of difficulty. The best way to get rid of them when hoeing and raking are not practicable, is to dig them down, especially the young generation. There is little required this month in the way of sowing, presuming that all the Cabbages, Cauliflowers, Lettuces, and Spinach have been sown in August. Broccoli, the advancing winter crops of this and of *Borecole* should be kept frequently hoed, and vacant ground may yet be filled up with the later kinds. The autumn Broccoli and Cauliflowers planted in shallow trenches should now have these filled up, for except in very dry situations the autumn rains will keep them moist. Celery, in earthing up the greatest care is necessary to prevent any portion of the earth falling into the heart of the plant, which would prevent the upright growth of the inside leaves and spoil its appearance for the table; nor should the earth be pressed too closely round the upper part of the plant, as frequently when such is the case it bulges out below. The best practice is to tie each plant up loosely with matting, having previously removed the suckers and small leaves, and then a little earth can be added every week as the plant increases in height. Another common error arises from earthing Celery up too soon. It should be allowed to grow to a moderate size before earthing up is attempted, and be frequently soaked with water; it should never be touched when the plants are at all wet. Cardoons, will require similar treatment. The latest of the Celery plants may be planted without making ridges for them, using for manure only a little leaf mould and charred earth; they will come in for soup purposes, and keep up the supply till May or June. Cabbages, the strongest plants of the early ones may be planted out for late Coleworts; the main crop to stand the winter must be planted by the end of the month in rich manured ground. Endive, plant plenty by the side of walls or wooden fences to stand the winter. Gather Chamomile flowers, &c. Basil and Sweet Marjoram should be bunched and packed in a close box to preserve their aromatic flavour. Leeks in drills may have the earth drawn up to them by the hoe. Late Peas and Beans will require close attention to prevent mildew: well supply the former with liquid manure. Scarlet Runners, let all the old pods be picked off, except a few of the best for seed, as they exhaust the plants for a succession. Tomatoes, as they are likely to be late, the leaves shading the fruit should be removed, and prevent the plants making any further growth by constant stopping.

FRUIT GARDEN.

Disbud and stop Figs, and stop the points of all strong-growing shoots on Peach and Nectarine trees. Take away all

nails that prevent the fruit swelling, and at the same time remove any very weak or extra strong shoots which will not be wanted for fruiting next season. The remaining shoots, being thinner, will derive more influence from the sun's rays increasing the temperature of the wall. Remove leaves where they prevent the fruit from properly colouring. Continue to tie in and stop Vines against walls, and protect the fruit.

FLOWER GARDEN.

Unless some precautions are taken to keep the taller plants in the beds of geometric flower gardens within proper limits they will be likely, towards the end of the season, to grow too high, and will destroy the uniform appearance essential to this style of gardening. A constant watch should therefore be kept on plants likely to exceed the standard height, and by frequently pinching back or pegging down endeavour to keep beds of the same pattern at the same height. At this season, with beds of flowering plants, frequent cutting back and trimming will be required to prevent a straggling habit in free-growing plants, which the late rains will help; at the same time allow no dead flowers or seed-pods to remain on the plants. By careful attention to these little matters the season of blooming may be prolonged till the plants are destroyed by frost. The late continuous storms of wind and rain have bruised and injured so much of the foliage of the trees, that, verging as we are on the autumn, the greatest vigilance will be required to insure high keeping. It is important that the lawns should be well rolled now, as the worms will be very troublesome. It will be well that all propagation for beds should be completed as soon as possible. Remove to some shelter tender greenhouse plants which have stood in pots during the summer in the flower garden. Take care to mark the arrangements, and to make memoranda respecting them. The shrubberies may now be cleared of dead wood, and all unnecessary growths controlled.

GREENHOUSE AND CONSERVATORY.

In arranging plants in their winter quarters on no account allow them to be placed too closely together. It should be borne in mind that very few plants have as yet perfectly matured their wood, and, consequently, as that process is still going on, such will require the air to play freely around them. Plants, too, are now-a-days expected to bear examination on all sides, and it is impossible to obtain bushy, compact plants if they are allowed to touch each other. On flat stages a few may, here and there, be elevated on inverted pots, to give a little relief to the mass of green. As by placing the plants thinner room may not possibly be found for all, a selection of the oldest or worst-formed plants should be set aside to make room for those which are more choice, and as cut flowers are always in request, the above may be found useful to keep for that purpose, and may be wintered in vineries or pits, where they will not interfere with other arrangements. Unless the weather become dry, Orange trees, if at all large, will soon require housing, as the heavy rains have saturated them to excess, and a low temperature will turn the foliage to a sickly yellow, which frequently remains throughout the winter. Before removing them to their winter quarters, any that require additional root-room should have fresh pots or tubs, the present being the most favourable time for the operation. As a compost for the Citrus tribe, French gardeners use a mixture of loam, peat, and rotten dung in the state of black mould; such plants are, however, found to thrive well in yellow turfy loam and thoroughly rotten cowdung, mixing a portion of broken charcoal throughout the mass. One thing, however, should be strictly attended to, and that is drainage, which, if imperfect, will soon produce ruinous results; they will likewise thrive all the better of being rather under than over-potted. Such as do not require a complete shifting should have their drainage examined, and the state of the soil, as regards dryness, noted, that their winter treatment may be regulated accordingly. Directly Japan Lilies, Gladioli, and plants of like habit have done blooming, remove them to the foot of a south wall to ripen their growth, water them moderately till their tops show signs of decay, when they may be laid on their sides till potting-time. The earliest-struck Pelargoniums should now be potted off, exposing them on all occasions to the weather, except during heavy rains. To have a late bloom of Fuchsias, let a portion of the stock have the young wood cut back about one-half. If these are placed in a little extra heat they will break again and go on blooming till Christmas. Continue shifting Cinerarias, Chinese Primroses, Calceolarias, Humeas, and other seedling plants for next season's blooming.

ORCHID-HOUSE.

The time has arrived when the following points must be attended to in order to secure success for the coming year. Care must be taken to ripen off fine pseudo-bulbs, strong healthy shoots, &c. To effect this, keep up a sweet growing atmosphere from 65° to 80°, with abundance of air in all favourable weather. Use the shading with caution, and let the plants have more sun, both morning and evening, and shade only when absolutely necessary. Use water more sparingly, except to such plants as are growing freely. All *Laelias*, *Cattleyas*, *Lycaste Skinneri*, and *Odontoglossum grande*, must be kept cool, and nicely syringed occasionally.—W. KEANE.

DOINGS OF THE LAST WEEK.

With only a couple of dry days up to Wednesday, the 5th, which is very wet, with a falling barometer, the work out of doors was chiefly a repetition of what was alluded to last week, and extra time has been devoted to putting in cuttings of *Geraniums*, &c., and forwarding house work as much as possible, in order that when the rains shall have ceased, more time may be devoted to out-door employment.

KITCHEN GARDEN.

Here the work has chiefly been confined to banking up Cucumber-frames with grass and litter, planting Coleworts, Lettuces, Endive, making up deficiencies in banks of Cauliflowers, and dusting them and some Turnips and Radishes with lime, soot, and ashes, to keep off slugs and snails, which now threaten to be troublesome.

Walks are almost sure to look unsightly with weeds in such weather, and Strawberry runners from the borders spread over them. If the walks are a little rough on the surface, and the small thread-like weeds are numerous, it may be necessary to hoe the walks, and rake them, and rake again in the first bright dry day, as in such weather merely cutting up the weeds will not kill them. Where boiling salt water could be thrown over such walks within 9 inches of the Box, that would be the surest means of extinguishing such weeds, and yet leave the surface of the walks untouched. The salting will do little harm to a rough-surfaced walk. Throwing salt over these walks in such wet weather would be of little benefit, as the salt would be so soon washed away beyond even the roots of the multitudinous small weeds. If fine, hot, dry weather can be selected, and the white appearance is no objection for a few days, we think sprinkling the walks with fine salt is the most economical remedy; but, as hinted last week, this must not be done with smooth-surfaced walks, as it will make them soft and retentive of moisture in winter. In many cases in the kitchen garden, when the walks are rather smooth, and the weeds appear chiefly close to the Box edgings, it is a good plan to scrape such weeds and any little moss that may appear, as shallow as possible, with a clean sharp hoe, and then brush all up with a hard broom, drawing it also over the middle parts of the walk, which will disturb all the slimy matters which are apt to accumulate, and give the whole a fresh, clean appearance. Even when labour is scarce, a kitchen garden may always be made to look respectable, if the walks and the borders adjoining them be kept clean. A walk green with weeds makes the whole look neglected, however good the crops.

In pleasure grounds, if the grass anywhere near the walks has been allowed to become long, it is almost certain that there will be a lot of Daisies, and other small weeds appearing at the sides of the walks, and scraping as above in a dry day is a good plan of clearing them off. Salting would be the quickest, but in very smooth walks, salting even the sides prevents the water of autumn and winter escaping so easily as desirable, so as to keep the main part of the walks firm and dry. A firm, smooth walk is a great luxury when dry. Many of our walks have not been broken for many years, and it takes a long-continued drizzle to make them wet, or cause them to lift in frost, and they have served their purpose well; but we begin to think whether instead of such hard-surfaced, unbroken walks, it would not be desirable in many places to have walks like ours rather shallow, a good drain below them, and formed of open, rough material, with the exception of a couple of inches or so of fine sandy matter on the surface, which would let the water pass through easily, and always present a smooth appearance, without the necessity of rolling. There is yet much to be said about walk-making. Even a walk covered with clean-washed gravel or small flints and pebbles, though not very pleasant to walk upon in a hot day with thin-soled boots,

has this advantage, that you can walk on it in all weathers almost without soiling the sole of a boot, and without leaving a trace of where you have been, which you will be sure to do in moist weather in more solid-crusted walks. Such rough walks may also be easily kept bright by salting, until the salting has dissolved and worn down the pebbles and stones, which it will be sure to do. We have lately met with more corroborative proofs of what we stated some years ago as to the wearing effects of soda and salt, when used in water for clearing flag-stones and pavements from a green slimy covering in shady places. As to the cleaning there can be no doubt; but many stones will suffer in consequence, becoming flowery, and flaking off at the surface in consequence, and just in proportion to their original porousness. We have known stones, after being cleaned with salt and soda, showing a white wasting efflorescence in damp weather for a couple of years, and we have known some cases of fine carved marble chimney-pieces being much injured owing to soda or potash being used in the liquor and brush for cleaning them. We do not know what marble-cutters use for making old dirty carved marble as nice as when new; but we should be doubtful of using either an alkali or an acid, if we wished the fine, bright, clear lines to remain unbroken.

FRUIT GARDEN.

The wind and the rains have brought down many Apples before they were ripe, and the wet ground has given them anything but the brightest appearance. Had the beet gathered and spread out thinly to dry, as when they lie on the ground the idea is suggested that you are wallowing in too great abundance. An Apple pudding would cease to have some of its attractions to many if they thought that Apples were more plentiful than Potatoes. Some people are so constituted that superabundance lessens their enjoyment.

Gathered Peaches and Nectarines, though not fully ripe, that they might escape the ravages of wasps, &c., as they will keep longer than on the tree, and ripen perfectly, and be free from spots. Peaches by themselves, though a hole may be bitten in them, make passable jam, but not nearly so good as Nectarines. Both together do very well, and both are improved by having the scalded kernels broken and placed in the jam a short time before being taken from the fire or oven.

Vineries.—Gave fire heat and more air during the day in this muggy-weather, and looked after any single moulded berry, as one will soon make half-a-dozen bad, and then the bunch would go. Just now we cannot do what we wish with outside borders to keep off the drizzling rains from late vineries, and from what is intended for early work. As a whole, nothing is more economical for this purpose than wooden shutters or frames covered with asphalt, to be put on and taken off the borders as deemed necessary. These appliances are common in large gardens; but many employers who expect great results would think they were ruined if any such coverings were provided for Vine or Peach-borders. By their help and litter, or nice thatching, the borders can be kept in the right state as respects moisture and dryness, and even to a considerable extent as regards temperature. In many places, especially where there is the least deficiency in drainage, the late heavy rains will so soak the borders that late fruit will be more inclined to rot early, and Vines intended for early forcing will run a risk of many of the fibres decaying, which will be more or less felt when the Vines are started into growth. Hence the number of such covers at such places as Treatham, Keels Hall, Bentley Priory, and Woburn, and hence the drawback where such appliances or glass sashes cannot be used.

Melons at this period should be kept pretty free of laterals, and the larger leaves encouraged where room can be found for them. Those in frames will be better of having linings put round them, and thus whilst the heat is maintained inside, a little air may be given at front and back. This, keeping on the swelling, will help to secure the Melons from cracking before they are ripe in this dripping weather. Whilst the roots are supplied with moisture, it will also be well to have the surface soil moderately dry. The fruit should also be elevated on an inverted saucer, &c., so as to be clear of the damp ground. This will sometimes place the fruit too near the glass, and expose it too much to the sun. When not shaded a little by the foliage of the plant, it is a good plan in bright weather to suspend a piece of thin paper a couple of inches or so above the fruit, which will alike prevent scorching and cracking, and keep the fruit warmer at night, when no covering is used for the glass. A day or two before gathering the paper may be removed. When the fruit is 18 inches or

24 inches from the glass, such care will not be necessary; but in frames the fruit is often not half that distance from the glass, and then a slight shade over the fruit, whilst the foliage is exposed, will often be advantageous. We used to like the paper to be suspended, better than laying it on the fruit. In a bed, four little sticks stuck in the soil and their ends through the paper answered admirably.

ORNAMENTAL DEPARTMENT.

Our lawns for a few days have been too wet, either to mow or machine, or roll, but the rapid growth of the grass will give us more work in future. As for the beds, they looked well eight days ago, and after the tremendous rains of Tuesday, Wednesday, and part of Thursday, the 28th, 29th, and 30th ult., they began to look cheery on Saturday and Sunday, but now they look like so many half-drowned miserable mice. They have had no mulching this season as usual, and though a little broken and shaken, and the blooms something dismal, we feel sure that after all this rain, if the weather should clear up, and there should be some sunshine, there will yet be a fine display in September and October.

On the whole, such a season as the present would teach us, if we would be taught, the importance of depending less on large lawns and large flower gardens for our enjoyment, and depending more on those styles of gardening which the weather cannot so easily mar. Who will be the first to give us an acre or two of first-rate flower garden under glass, with means to let in the rain, or shut it out at pleasure?

Proceeded with inserting great numbers of cuttings, and potting and cleaning plants, but for particulars as to bulbs, and greenhouse and stove plants in general, we beg to refer to Mr. Keane's clear directions of the last and present week.—R. F.

COVENT GARDEN MARKET.—SEPTEMBER 8.

Few little alteration in the state of our market. Pears comprise the varieties named last week. Peaches and Nectarines are much more abundant than could have been expected from the reports a month back.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples ½ sieve	2	0 to 3	Melons..... each	2	6 to 5
Apricots doz.	0	0 0	Nectarines..... doz.	3	0 4
Cherries lb.	0	0 0	Oranges..... 100	12	0 30
Cherries bush.	0	0 0	Peaches..... doz.	2	0 6
Currents ½ sieve	5	0 0	Pears (damson) .. doz.	1	0 3
Black doz.	5	0 0	Kitchen..... doz.	0	0 0
Figs doz.	1	0 2	Pine Apples..... lb.	3	0 5
Filberts..... lb.	0	6 1	Plums ½ sieve	7	0 0
Cobs..... 100 lbs.	0	6 1	Quinces ½ sieve	0	0 0
Gooseberries .. quart	0	0 0	Raspberries..... lb.	0	0 0
Grapes, Hothouse.. lb.	3	0 5	Strawberries..... lb.	0	0 0
Lemons..... 100	6	0 10	Walnuts..... bush.	10	0 14

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes..... each	0	3 to 4	Leeks bunch	0	3 to 0
Asparagus bundle	6	0 8	Lettuce..... per score	1	0 1
Beans, Broad.. bushel	5	0 0	Mushrooms..... pottle	1	6 2
Kidney ½ sieve	2	0 3	Must.& Cress, punnet	0	2 0
Beet, Red..... doz.	2	0 3	Onions..... doz. bunches	4	0 6
Broccoli..... bundle	1	0 1	Parsley..... ½ sieve	2	0 0
Brus. Sprouts ½ sieve	0	0 0	Paranips..... doz.	0	9 1
Cabbage..... doz.	1	0 2	Peas..... per quart	0	9 1
Capsicums..... 100	2	0 3	Potatoes..... bushel	2	0 4
Carrots..... bunch	0	4 0	Kidney..... doz.	3	0 6
Cauliflower..... doz.	2	0 6	Radishes..... doz. hands	0	6 1
Celery..... bundle	2	0 3	Rhubarb..... bundle	0	4 0
Cucumbers..... each	0	4 1	Savoy..... doz.	0	0 0
pickling..... doz.	2	0 0	Sea-kale..... basket	0	0 0
Eradice..... doz.	2	0 0	Shallots..... lb.	0	8 0
Fennel..... bunch	0	3 0	Spinach..... bushel	2	0 3
Garlic..... lb.	1	0 0	Tomatoes..... per doz.	1	0 2
Herbs..... bunch	0	3 0	Turnips..... bunch	0	4 0
Horseradish .. bundle	2	6 4	Vegetable Marrows dz.	0	9 1

TRADE CATALOGUES RECEIVED.

B. S. Williams, Victoria and Paradise Nurseries, Holloway, London, N.—*General Bulb and Fruit Tree Catalogue.*

John Scott, Yoevil and Merriott Nurseries, Crewkerne, Somerset.—*Catalogue of Flower Roots.*

TO CORRESPONDENTS.

. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

N.B.—Many questions must remain unanswered until next week.

BLUE GUM TREE (*Blue Gum*).—This is the *Eucalyptus globulus*. The best thing you can do with your plant is to place it with its pot under glass in winter—a cool house will do for it, take some cuttings of it in spring, and then turn the plant out against a wall, or on a hillside in a sheltered place. It will not stand much frost, but the less it grows in summer the harder it will be out of doors. It is not worth room under glass.

VERBENA CULTURE (*E. D. S.*).—You will find the information which you require at page 148, and in papers by Mr. D. Thomson and Mr. Fish in Nos. 128 and 280.

TRANSPLANTING A MAGNOLIA (*Jessie Porch*).—Moist weather in the end of September or beginning of October is a good time to transplant an evergreen Magnolia, which we presume yours is as it is now flowering. The end of March and beginning of April are the next best periods. It will be necessary to dig out a trench at least a yard from the stem, if it is of moderate size, varying the distance of course with the size of the tree so that in any case most of the fibres or a good proportion of them will be preserved along with a good ball. If you dig out a trench around the tree at some distance from the stem, and find only thick roots, and the soil towards the trunk comes away freely, and is not plentifully filled with fibres, then we would recommend you to fill up the trench again, and let the tree remain until that time twelve months; but if the soil from the trench towards the centre of the ball be full of roots, the soil coming away with difficulty, and requiring to be picked out with a fork, then work away any loose soil from amongst the roots, and move the tree at once with a good ball, and after planting spread a little fresh and moderately rich soil under and around the roots, and lay them carefully out. Give a good watering, stake, and tie with rope, interposing a hayband between the rope and the trunk to prevent the former cutting the bark.

DRESSING ASPARAGUS-BEDS (*A Subscriber since March*).—When the stems become yellow they should be cut off close to the ground; the beds may then be covered with from 3 to 6 inches of half-decayed manure, and the soil from the alleys neatly dug out and thrown on the beds. The only good that can result from the stalks being spread over the beds before covering with manure will arise from the berries being left on the beds, and young plants coming up in the following year. Some pick off the berries and scatter them on the beds, covering with manure afterwards, and remove the stalks; others remove the stalks and weeds, and then cover with manure. The one plan is as good as the other.

SHRUBS FOR PLANTING UNDER TREES (*J. S.*).—If very much shaded, and the ground is much occupied by the roots of the trees, we fear that very few shrubs will grow; the best in that case would be Aucubas and the Periwinkles. If it be possible to dig holes for the shrubs, then the following in addition to those named, which are the very best, would do tolerably well: Common Laurels, Laurustinus, common Yew, common Holly, Box, Ivy in variety, (it and Periwinkle being best for sun-facing covering or near the margin), Butcher's Broom, Alexandrian Laurel, Berberis aquifolium, B. repens, and B. Darwini, Rhododendron penticum, and Privet.

REMOVING BARK FROM VINES (*H. A.*).—You may strip the loose bark from the Vines after the leaves have fallen, not going so deep as to injure the fresh bark, and afterwards dress them with Gishurst compound at the rate of 8 ozs. to the gallon.

APPLYING URINE (*Idem*).—It may be diluted with six times its quantity of water, and then applied to all kitchen-garden crops in the ordinary way of watering, pouring it between the rows of growing crops.

NURSERY GROUND (*China Aster*).—1. Forest trees impoverish the ground more than ordinary farm crops, but not to the extent of rendering it unfit for tillage afterwards. A green crop or two will bring it round. 2. The rent of nursery ground is very variable, ranging from £5 to £30 per acre, locality and quality of ground making all the difference.

BEDS FOR DAHLIAS, PANSIES, AND ARTERS (*Idem*).—To grow these well, it is necessary that the ground should be deeply dug or trenched, and thoroughly exposed to the atmosphere to render it sweet. You cannot, therefore, do this and have the beds gay when not occupied with these plants, for that is the time when the soil should be thrown up roughly to the weather.

ALPINE PLANTS (*M. A. E.*).—Plant *Silene acaulis* in loam and grit on a ledge of rockwork in a sunny exposure; *Linaria alpina* in a sunny chink of rock amongst loam, peat, and grit, which must be kept moist; *Saxifraga aizoon* and *S. aizoides* in moist loam and grit on a ledge or in a crevice of rockwork in the full sun; *Rhododendron ferrugineum* in peat and grit in a sunny fissure, which is to be kept moist; *Erigeron alpinus* and *Crepis aurea* in a sunny opening in sandy loam; *Ranunculus alpestris* in peaty loam and grit in a well-drained fissure, keeping the soil very moist; for *Dryas octopetala*, choose a sunny fissure, and if the rock is not of limestone, place some of that material therein, and plant in peat and grit, keeping moist; plant *Aretia helvetica* in a sunny fissure of rock in grit with a very little peat, kept moist; *Primula viscosa*, in a somewhat sunny opening, among well-drained loam and grit; *Rumex nivialis*, in a sunny opening in sandy loam; *Sedum dasycarpum*, in well-drained sunny fissures, in gravel and sandy loam. *Hutchinsia alpina* requires a sunny fissure, with limestone, and a compost of loam and grit. The large blue Gentian needs a sunny slope of rockwork, and planting in fibrous loam and gravel, with an open exposure; the small Gentian a sunny bank, deep rich fibrous loam, gravel, or limestone. The Alpine Rose or *Cistus* strikes freely in peat and sand, covered with a hand-glass; select cuttings of the half-ripened wood.

VENTILATING A WALL-CASE (*Rus in wrb.*).—We think that with the doors open, and the space above the doors, in hot weather, your 6 inches of ventilation top and bottom will do, as it will be continuous; 8 inches more would have been better, and though left open, with power to close when deemed advisable—a matter of importance in early frosts, and for ripening Grapes in autumn. In addition to Black Hamburgh you can have White Muscadine and Buckland Sweetwater. With the above your arrangements will answer.

CATERPILLAR GNAWING RIPE GRAPES (*R. S.*).—The hairy caterpillar which has gnawed your Black Hamburgh Grapes is that of the large Ermine Moth, *Bombyx (Spilosoma) Menthrastri*. It is quite an unusual habit, although the insect is a very general feeder.—W.

THOMPSON'S GARDENER'S ASSISTANT (Elliott).—We are informed that the plates are all hand-coloured.

HOUSE FOR LATE VINES, FRUIT TREES, AND BEDDING PLANTS, AND EARLY VINEY (A Subscriber).—In such a low house for general purposes, with a hipped roof, and a forcing-pit abutting on the front wall, we would have a pathway down the middle, make a border inside all the width of the house, and raised against the back wall a little, and there we would plant the Vines, and train them down the hip and front roof. A latticed path of wood would be best during summer. Fruiting plants as Peaches, Figs, &c., might be set on pans and partly plunged in the floor on both sides, and in winter moveable stages could be let in against the back wall, and a flat one in front of both for bedding plants, which would be better than setting them on the floor. In the smaller or shorter house where you want early Grapes, we would adopt much the same system, only if we did not have pipes underneath the border, we would have an open rubble bottom below it, and upright pipes at back and front communicating with the rough open chamber, which would thus tell on the temperature of the border. To do this more easily you might raise the border at back and front 2½ feet above the ground level, and plant both at back and front; and with a flat-sparred table above each of these borders you could grow Kidney Beans, Strawberries in early spring, dwarf Fig trees, and bring forward lots of cuttings, Gloxinias, Gesneras, &c.; then when the Grapes were gathered you could have any plants in it that needed glass protection. By this means you would have no outside borders, and a pit in front would be very useful.

SPERGULA PILIFERA FOR A CHURCHYARD (A. B. C.).—The *Spergula* may be sown now under protection in a cool place, or in the spring, using sandy soil, and covering the seed slightly. We are doubtful of *Spergula pilifera* doing for a permanence, and would use it only in the narrowest parts. We would have more faith as to these narrow parts in *Saxifraga hypnoides*, the smallest bits planted about 6 inches apart would soon make a carpet, but we question if seed could be obtained on a large scale. Will some correspondent oblige "A. B. C." with their experience of *Spergula* for such a purpose?

DUTIES OF A FOREMAN (A Greenhorn).—A foreman is the first or chief workman amongst a number or company of other workmen. His "place" is just the position assigned to him by his master, and which he engages to fill. The duties, responsibilities, and privileges, are just as varied as the circumstances of the connection.

SHRETLAND A HOUSE FROM THE NORTH (T. P.).—The Spruce planted 5 feet apart, and well kept, would answer your purpose, but not nearly so well as Yew at 4 feet apart. Strong plants of the evergreen Privet would soon make a capital protective fence, and be more easily kept to the required height of 12 feet.

PEAR TREES (P. R. T.).—If you consider the interest of the tree, you will cut the shoots back, reducing them one-third of their length. Next year you will find the latent buds, of which you now complain, developed, and as these produce shoots you must pinch them back, and induce them to produce fruiting spurs.

COCOA-NUT FIRE REFUSE (W. B.).—You can obtain this for gardening purposes from Messrs. Barham & Co., Kingston-on-Thames.

FRUIT TREES AND FRUITS (E. Parnell).—Fruits vary in quality in different situations and seasons. Dr. Hogg and Mr. Rivers are, no doubt, both right, but you may consider Alexandre Lambré an inferior Pear for this climate, for once it is good it is ten times bad. Kirke's Plum is an excellent bearer, and you may grow it either as a bush or a pyramid. Look to the roots, and see that they have not penetrated into the subsoil. Purple Gage is one of the finest Plums in cultivation. Try watering the trees when the fruit is swelling, and see what effect that will have.

CONCRETE FOR A VINE BORDER (J. H. W.).—The surface of your border should be made to slope evenly from the front lights to the front of the border, sufficiently to allow of the water running off. On it place 8 inches of stones broken small, ramming them well down, then run the depth of an inch above the stones with one part of Portland cement, and two parts coarse sand and fine gravel, mixed to a thin gauge with water. Before this coating has become thoroughly set, lay upon it a coat of Portland cement, mixed with an equal quantity of sand, and made to the consistency of thin mortar, evenly to the thickness of an inch. This will set very firmly, but it is not a cheap concrete, though the only one we know calculated to throw water off. The surface of the border, however, is not the place for the concrete, it should be at the bottom, immediately under the drainage, to prevent the roots penetrating into bad wet soil, and for this purpose we do not recommend the above concrete, as it is too costly. Concrete on the surface of the border would prevent water and air entering; it would do no great harm to the roots for a time, but ultimately prove their destruction. Your best plan of rendering the border dry would be to adopt a covering of boards, as described at page 189 of the present volume.

LATE STRAWBERRIES (Idem).—Elton, Filbert Pine, Frogmore Late Pine, Admiral Dundas, Orange Chilli (very late), and Bliton Pine, a good old white, and rather late variety.

DESTROYING ANTS (A Young Gardener).—We can only repeat what we have frequently stated before, that arsenic and honey in equal parts, mixed together, and placed in saucers near their haunts, will poison them. Sprinkling guano water over their nests will drive them away, and so will ammoniacal liquor. The flies and wasps may be taken in soda-water bottles half filled with sweetened beer, and suspended by the neck amongst the branches.

MAKING A VINE BORDER (Idem).—We would advise keeping the border as much above the level of the surrounding ground as you can, taking out the soil no deeper than 2½ feet. The bottom of the border should be made to slope towards the front, where there should be a drain with sufficient fall and outlet. On the bottom of the border place 9 inches of brickbats or stones for drainage, and on this a layer of turves grass side downwards. For soil use the top spit of a pasture, or take off the sods to a depth of 4 or 6 inches, selecting a yellow lightish loam, and if it has a gravelly soil all the better. Form the border of this, chopped a little so as not to be too open, and mixed with one-sixth its bulk of boiled half-inch bones. Make the border 3 feet deep above the drainage, and in a dry period. Not knowing what kind of soil yours is, we are not able to say whether it would be suitable or not.

MUSHROOM-BEDS (C. P.).—See "Doings of the Last Week" for the last fortnight. You will see that you may make the bottom of your Mushroom-bed of any rather dry litter, and put the droppings on the top. We have had good beds with from 3 to 8 inches of short dung and droppings. More, mind, if you can obtain them.

NAMES OF FRUIT (Chinn and Weaver).—Your Apple is Winter Greening. (J. P. S.).—Revelston Pippin. (E. H.).—1, Cellini; 2, Ashmead's Kernel; 3, Braddick's Nonpareil; 4, Kerry Pippin.

NAMES OF PLANTS (H. W. E.).—1, *Polystichum aculeatum*; 2, *Lastrea uliginosa*; 3, *Polystichum angulare*, var.; 4, *P. aculeatum*, var.; 5, *P. angulare*, var. The *Acœna* is quite hardy. (W. B. B.).—We are unable to determine from the fragment sent whether your *Pinus* is *P. insignis*. *P. insignis* has usually three leaves in each fascicle, but yours has only two. (C. F. O.).—Specimens too fragmentary. 1 and 5, *Cheilanthes farinosa*; 2, *Gymnogramma*, species uncertain; 3, *G. calomelanos* (?). (B. G.).—1, *Pteris scaberula*; 2, *Adiantum pedatum*; 3, *A. setulosum*; 4, *Pteris longifolia*, var. serrulata; 5, *Pteris cretica*, var. albo-lineata; 6, *Pteris cretica*; 7, *Isoplepis gracilis*; 8, *Pilea serpyllifolia*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending September 8th.

DATE.		THERMOMETER.						Wind.	Rain in inches.	GENERAL REMARKS.
		BAROMETER.		Air.		Earth.				
		Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . .	2	29.888	29.586	67	40	68	60	W.	.22	Rain; clear with some low white clouds; showery.
Mon. . .	3	29.841	29.796	66	48	61½	60	S.W.	.08	Fine; low white clouds, in deep blue sky; fine; rain.
Tues. . .	4	29.666	29.581	67	55	61	59	S.W.	.86	Rain; showery; wet and cold throughout.
Wed. . .	5	29.499	29.587	68	59	62	59	S.W.	.12	Boisterous and wet; showery; fine; clear at night.
Thurs. .	6	29.607	29.571	68	54	62	59½	S.W.	.61	Partially overcast; showery; boisterous; stormy and wet.
Fri. . .	7	29.698	29.519	65	53	63	59½	S.W.	.08	Overcast and boisterous; fine; overcast; rain.
Sat. . .	8	29.749	29.578	68	55	62	59	N.E.	.22	Overcast; showery; heavy rain; densely overcast; heavy showers.
Mean		29.697	29.538	66.66	51.00	61.96	59.43	..	1.89	

POULTRY, BEE, and HOUSEHOLD CHRONICLE

POULTRY SHOWS WITHOUT PROTECTION.

DURING the last fortnight scarcely a day has passed by in which I have failed to receive two or more letters from various exhibitors complaining of the harsh treatment of their birds by exposing them without any protection whatever during the whole time of exhibition, and requesting me to publicly give my opinion on the practice, as my doing so would most probably have greater weight than any comments of their own. Several pens of both fowls and Pigeons have also been submitted to my inspection, with the double view of asking whether I could suggest any means for their recovery, and also to convince me how seriously they had suffered. The plight in which these unfortunate birds were shown to me was

pitiable beyond the conception of any person who had never been an eye-witness of such injuries; and were further proof wanted of how cruelly these birds have been treated, nothing could be more convincing than the fact that to my personal knowledge more than a dozen valuable specimens have already died, and my own impression is, from what I have seen, that in a few days hence more than double that number will succumb. This has arisen, beyond the possibility of doubt, entirely from the reckless exposure of such specimens to the continuous drenching rains, of late so general.

It might possibly be expected that I should make some remark on the arbitration of show birds when thus thoroughly saturated. I am convinced that under such circumstances, when arbitrators as well as birds are fully exposed to almost a blinding rain, a really correct appointment of the prizes is unattainable, and even a tolerable approximation to it is more than doubtful.

The next question is, What remedial measures can be

adopted so long as some committees wilfully persist in carrying out their shows without tents or similar accommodation? I believe that exhibitors themselves have a power in their own hands so coercive as to enforce better arrangements from the committees of poultry shows for the future, and I know several extensive exhibitors who intend "never to enter a pen at any show in times to come that does not afford necessary shelter to the competing poultry." Such a determination is a very natural one when the fearful losses of a bird in this pen, and perhaps the like in several other well-matched exhibition pens, are considered; but to take the higher ground of the intolerable cruelty of exposing night and day tenderly-reared birds to all the vicissitudes of our changeable climate without *any shelter whatever*, is, I think, quite sufficient apology for once more reproducing my opinion on the matter, though it must be evident that the subject is far more important to the owners of show poultry than to an arbitrator.—EDWARD HEWITT, *Eden Cottage, Sparkbrook, Birmingham.*

THE BIRMINGHAM PRIZE LIST.

Your readers will, I have no doubt, hear with deep regret the alterations which the Birmingham Council have decided to make in their prize lists for next Show. The management of the Poultry Committee of this great and important Show has often been criticised in your pages, and frequently these gentlemen have been blamed for the silent manner in which they have listened to the appeal of not only exhibitors, but some of the important members of the Council. Without any appeal to exhibitors, but indirectly opposed to the opinion of some of the leading poultry fanciers in Birmingham, the Committee (although the majority of them know about as much of a poultry show and its management as of a horse show), have decided that the cock and hen classes shall be entirely cut out of the list. Single cocks, hens, and pullets will now form the Birmingham prize list.

Strange to say, although the prize list was decided on two months ago, never has it yet been circulated. Doubtless the object the Committee have in keeping it back is to avoid discussion, to allow as little time as possible for exhibitors to express their opinions and to decide which now is the best show to keep their best birds for. I will only ask, Why is this strange change made? Not to increase the number of entries, for I have always understood that they would rather have less than more. Perhaps it may be that the Committee are so fixed against having different judges, and knowing the incapacities of the old staff, think they may perhaps be able with rather more correctness to award the prizes to single birds, and that the best may then win, instead of the highest honours (as at the last Show) being given to many of the worst pens. The Committee of the Birmingham Show must not forget there are other shows now treading very closely on the heels of Birmingham, and unless a little more judgment be exercised, it will soon occupy a secondary position.—AN OLD EXHIBITOR.

EXTRA PRIZES TO BUFF COCHINS AT BIRMINGHAM.

THE system of getting up the extra prizes for Buff Cochins at our Birmingham Shows, I regret to say, does not prove satisfactory. The Council object to add these extra prizes to their prize list, unless a guarantee is given for the amount. The prize lists are issued before the amount can be collected. Last year Mr. Boucher and myself guaranteed the amount of the extra prizes suggested by myself—viz., a £5 extra prize in each of the five different classes—£25 in all. Captain Heaton most liberally heading the list with £5; and although I posted circulars to all the principal breeders of Buff Cochins, I am ashamed to say the amount was never subscribed; consequently Mr. Boucher and myself were compelled to make up the deficiency. One noted breeder replied to my circular saying he did not feel disposed to subscribe towards the Captain Heaton cups, but in case he should be fortunate enough to win one he would subscribe—a liberality characteristic of a Yorkshireman. He *did* win a cup, and there being a deficiency, I applied to him to make good his promise, but he never had the courtesy to reply to any of my letters. This mode of treatment, after putting myself to some trouble and expense in having circulars printed, postage, &c., has quite disgusted me from ever subscribing or obtaining subscriptions towards prizes for general competition. It is

therefore my intention to open sweepstakes of £2 2s., for next Birmingham Show—the amount to be equally divided in an extra prize to each of the Buff Cochins classes—the sweepstakes to be decided by the awards of the Judges. The highest position a subscriber takes gains the sweepstake. If one or more obtain the same position, or should none of the subscribers obtain a position at all, the services of Mr. Hewitt shall be called in to decide the sweepstakes. The individual I have referred to in the early part of my circular, it is my intention not to allow to enter for the sweepstakes, unless he consent to pay up the subscriptions promised last year. The amount shall then be added to these sweepstakes and his name accepted. I need not, I am sure, call your attention to the great importance of these extra prizes; since these have been established Buff Cochins have considerably increased in value, and I think I am quite correct in stating that at the present time they realise much higher prices than any other description of fowls.

The entries for these sweepstakes will close on the 1st of October next; Mr. Lythall, Secretary of the Birmingham Show, will receive all subscriptions.—HENRY TOMLINSON, *Balsall Heath Road, Birmingham.*

[We recommend the foregoing to the attention of all exhibitors of Buff Cochins-Chinas; and at the same time to express our opinion that if this offering of extra prizes were carried into effect at other shows, and for other varieties of fowls, it would add much to their attractions. The Birmingham Exhibition is especially distinguished for the number and excellence of the Buff Cochins-Chinas there exhibited, and this we believe is attributable in no slight degree to the additional premiums to be there contended for.—Eds.]

VULTURE-HOCKED BRAHMAS.

I HAVE been a large importer, and a very large breeder of Brahma Pootras for many years. I never imported a vulture-hocked bird, nor did I ever breed one, except when I had used birds of other strains for fresh blood. I have always either killed such, or sold them at low prices as mere egg-producers. I have never met with any one who wished to breed this appendage, and the "Standard of Excellence," to which "Y. B. A. Z." refers, says, "Vulture hocks are objectionable, but not a disqualification." If they are correct, they cannot be objectionable. When the Cochins mania was at its height, every ship that sailed for China took out commissions for fowls, and no ship returned without bringing some. These were not all of necessity pure or good specimens of the birds known here as Cochins; but in the anxiety to possess some of the popular breed, every fowl that had any pretension to it, or that possessed some only of the characteristics, was eagerly purchased. The evidence that was collected was from such breeders as Messrs. Sturgeon, Punchard, Andrews, Steggall, and Gilbert. I perfectly recollect the last-named gentleman showing me a Buff pullet, offered to him by a sailor who brought it over, and lamenting that he could not avail himself of the fresh blood because she was vulture-hocked. I knew Mr. Sturgeon's birds from the first, also Messrs. Andrews' and Gilbert's. They were not vulture-hocked. If I were asked to define a vulture hock, I should describe it as composed of stiff feathers, projecting behind and below the knee. The existence of short fluffy feathers that merely curl round the knee joint would hardly be called an offence.

If I were to exhibit Brahmas I should not at all hesitate to do so, leaving the vulture hock out of the question; I believe in almost every case those that have this point are the worst-shaped birds, being stilty and long on the leg. The judges who are blamed by "CLERICS" must fight their own battles. I may, however, remark that our principal judges have not been considered "arbitrary" or "narrow-minded." What, however, does he mean when he compares vulture-hocked Cochins of the present day and those that were not so in former times, with the flower that has become double through forcing? In this last case a well-defined object formed the starting point; but no one will pretend that it was ever sought by exhibitors to produce the vulture hock, or that its appearance is the result of more careful breeding or judicious crossing. I believe there is not a breeder who would not gladly get rid of it if he could. I am no partisan, seldom an exhibitor, sometimes act as judge, and have been a close observer all my life of the properties and points of fowls. I have noticed all through the poultry question, that as old leaders withdraw from classes there is often a disposition on the part of their successors rather to bring the

standard down to their birds than to raise them to it. It is said that when Mahomet was guilty of any little "scart," he wrote a chapter of the Koran to justify it; so, I believe, if fowls were produced with Dorking tails on Cochins bodies there would not be wanting those who would honestly believe and support the opinion that they were correct.—BRAHMA N. V. H.

ECCENTRICITIES OF ENTRIES.

Few exhibitors can have waded through catalogues of poultry exhibitions without being struck by this fact, that the entries in the various classes appear to be devoid of any rule. It is perfectly true that these entries are dependent not only on the will and whim of the exhibitor, but also on the condition of his yards, yet it is difficult to understand the reasons that explain the vast differences that take place. At Birmingham, for instance, Cochins numbered 277 pens, they stood *Al* as payers in entry-money to the coffers of Birmingham; true, there were additional prizes offered, but this was also the case in other classes. At Salisbury there were three classes for Cochins, each with three prizes of £3, £2, and £1, and the entries were respectively: Buff five, Brown and Partridge six, White five; Brahmas mustered seventeen entries in two classes. At Reading Cochins were offered larger prizes; two pens contended for three prizes!—being doubled, in fact, by the Poland entries of all breeds for smaller prizes! At Rochdale, on the contrary, Cochins were far beyond Dorkings and Spanish in number of entries. Birmingham showed Spanish beaten by all the older varieties except Malays and Polands, possibly accounted for by moulting; but still, soon afterwards at Manchester they are the best payers, and this I think was the case two years ago when I examined the catalogue. Again at Salisbury they mustered seventeen pens in one class, as against Cochins in three classes. At Cirencester they assembled six, all told, Cochins amounting to eighteen entries in two classes. At Epping in all the classes save Dorking the entries were simply ridiculous, and I am quite at a loss to account for this, as the prizes are liberal, and the show a one-day exhibition. True, two hens are still required at this show, and this certainly limits entries, but it does not account for the shortcomings of entries both on this occasion at Epping and last year at Brentwood. I regret it, for it discourages the promoters of shows, and I cannot but think that this show is not known as it deserves to be.

At Salisbury, however, a still more extraordinary point in the matter of entries occurred. In 1864 at Bristol three pens of Malays competed for £3, £2, £1 prizes!—so that at last the Bath and West of England that had long remained steadfast to this old breed forsook it, and 1865 saw for the first time for many years no Malay class. Owing to the increased amount offered to poultry (no cattle being exhibited), a Malay class with two prizes only was added in 1866. Well, who can understand the enigma of entries?—the breed that was discarded in 1865 equalled the highest entry for Cochins, which were offered £6 against the £4 to Malays! It surpassed the other classes for Cochins, and (I write from memory), it surpassed some of the classes for Game to the best of my recollection.

I think I have shown by these various quotations that the entries do not depend so much on the amount of prizes offered as on something not very tangible beyond the ken of schedule-framers. What may schedule-framers learn from this? Why, that it is not politic to make extreme distinctions in the amounts offered to various breeds, but rather apportion the amount, especially at the smaller shows, pretty equally to each. They are quite uncertain as to the breed that will in any given show prove the most paying variety. The example set by Darlington does not seem to be followed, yet it is strictly fair, if smaller prizes are offered to certain varieties the entry fee ought to be less.

Then, again, in the Any other variety class there is great need for improvement. Often the right to two prizes is disputed by a motley group of all sorts; many of them are equally deserving, but the fancy of the judge decides. Here it would certainly be a good plan to give an increased number of prizes as was done at Islington, when two first, second, and third prizes were offered. This is better than at Lord Tredegar's Show, where the difficulty has been met by five or six prizes in the class, decreasing in amount. Coupled with this class there is another suggestion I would offer, it is not every exhibition that can afford Crève Cœur and La Flèche classes, but the generality of shows could afford a class which, now-a-days, I

fancy would pay for "French" fowls. This class would take in Houdans and the two other breeds named, breeds which certainly agree in one respect, they are terribly ferocious-looking! I am a family man and dare not keep them, afraid that some of the juveniles might wander into the yards and be frightened to death by the apparition of one or other of these horrible-looking birds. I had once a Crève Cœur hen, every other hen was afraid of her, gave in at once, as though the sight of her were sufficient, and no proof of her prowess necessary.

Another point I would greatly urge on schedule-framers is the adopting one hen instead of two. This will increase the number of entries, lessen the amount of food consumed, lessen the amount of time required for packing, &c., and reduce the present exorbitant and unjust charges for carriage. It is also a wise plan on the part of exhibitions to make the closing day for entries as late as possible; a month may be necessary for Birmingham—I, for one, greatly doubt it, but a week or ten days is ample time for the generality of exhibitions.—Y. B. A. Z.

WARNING.

I wish to make known my grievance, and ask some of your correspondents to suggest a remedy for the sake of others who may be fellow sufferers. A few weeks since an advertisement appeared in your columns offering a number of chickens of a certain breed, from the strain of a gentleman named, and who took a first prize at Birmingham last year. They were said to be from four to five months old, fit for exhibition, and were offered at 5s. each. I wrote to the party on the same day the paper was published, giving him the name of a respectable and well-known exhibitor in the county in which he resides as reference, and requested him to send me at once on approval six pullets and a cockerel, offering to pay the carriage both ways. I received a reply by return stating that the four and five-months birds were all sold, but there were plenty left at two and three months, but they would not be sent on approval. I then wrote for six three-months-old pullets to be forwarded. More than a week passed and no fowls came, and my letter was unanswered. I then wrote again requesting to know the reason. I received a reply, stating that six pullets, two of them ten weeks the rest sixteen weeks old, were set aside for me, and would be sent on receipt of a post-office order for the amount, at the same time assuring me that several birds had been sold and all had given great satisfaction. I at once forwarded an order made payable in a week. That time had nearly elapsed before I heard anything more, when another letter came stating that only four pullets were left, two at ten weeks, and two at sixteen weeks old, and that two hens of 1865 would be sent if that would suit me. Being quite tired of being trifled with nearly three weeks, I requested them to be sent, and a cockerel into the bargain. I received two moderate hens, the best of which and the cockerel were completely scalped to the bone on the journey by the other hen, which appears to have been a stranger to the rest. The four chickens were the worst specimens of the breed I ever saw, and worth at most 1s. each, or the market value of common barndoor fowls of the size. I at once understood how it was that the birds would not be sent on approval, and why I did not receive them until after the money was payable. From the appearance of the advertisement I had every reason to expect some decent birds, but imagine my disappointment.

What is to be done to protect the public from this species of swindling, and how are buyers and sellers to put faith in each other whilst it continues?—A VICTIM.

[The remedy is obvious. Either do not buy of an unknown seller, or do not part with your money until you have seen the birds.—Ede.]

POULTRY FANCIERS, AWAKE!

Are ye asleep or in a torpid state that you allow yourselves to be swindled so continuously? I can truly sympathise with your correspondent Mr. Howarth Ashton, for I have been similarly victimised, but so very often that it has at last aroused me out of my lethargy; and I would, if possible, arouse my brother fanciers, and unite with them in trying to put down the swindlers that are realising such a nice little fortune out of us.

Last spring I was induced, by seeing an advertisement in *The Journal of Horticulture* representing a very well known

name, and one which has appeared in a great many reports of poultry shows as a successful exhibitor, to pay a very good price (under the circumstances), for a sitting of eggs, and which on a very close examination, after the greatest of care and a little anxiety, all turned out to be boiled, even from such a quarter. Again, like "H. A." the successful swindler is determined that all transactions shall cease after he has sent you the eggs, for he will not condescend to notice any letters written to him.

Now, will you oblige me by answering the following: Cannot I prosecute him for obtaining money under false pretences if I can prove it?—RUSÉ COMPÈRE.

[That you can not only recover the money from the seller of the eggs, but could punish him for the fraud we have no doubt; but the transaction does not come within the legal definition of obtaining money by false pretences. And now a word about a protection society. Let every poultry fancier be his own protector, for nothing is more easy. We adopt these invariable rules: we never buy fowls or eggs except from persons known as honourable, we never part with a fowl or eggs before we have received payment, and we never buy a fowl from a distance unless it has been seen by some one on whose judgment we rely. Abiding by these rules we never have to complain; and we must add that no one has our sympathy who buys of any seller notorious for dishonesty.]

WOODBIDGE SHOW.

By an oversight I omitted to mention where the "suspicious dealing" of which I spoke in a former letter took place. It was at Woodbridge. And when your correspondent "RIGHT AND WRONG" says his object is to "do Right," I rather suspect he is a bit of a wag, and that he aimed at something like a *double entendre* in choosing that exact phraseology, although his orthography should undergo a slight change. Mr. Howarth Ashton's poultry man is evidently a wag too; and he reminds me of an abominable transaction three or four years ago, in which the same individual to whom Mr. Ashton refers defrauded me in the most deliberate manner. How necessary, then, it is daily becoming to have some means of protection against these rogues. Do not let us only talk about it, but let some one who is able and willing take the trouble to organise and carry on the management of a society of amateurs and gentlemen who either have suffered, or are liable to suffer, from the unprincipled conduct of a set of scamps, whose names as exhibitors or dealers require only to be made public in order to deter any respectable man from having anything to do with them.—ESOMCT.

KEIGHLEY POULTRY SHOW.

THE twenty-fourth annual meeting of the Keighley Agricultural Society, took place on Friday, August 31st. The entries were considerably more numerous than last year, being for poultry 241, for Pigeons 190, for Rabbits 15. The following prizes were awarded:—

GAME COCK.—Cup, J. Bradford, Bradford.
COCHIN-CHINA.—First, J. Dixon, Bradford. Second, C. Sidgwick, Riddlesden. *Chickens.*—First, T. Bott, Bury. Second, H. W. Illingworth, Idle. Highly Commended, T. Lambert, Silsden. Commended, C. Sidgwick.
SPANISH.—First, J. Thresh, Bradford. Second, H. Beldon, Gottstock. Highly Commended, E. Brown, Sheffield. *Chickens.*—First, W. Roberts, Halifax. Second, J. Pinder, Clitheroe. Highly Commended, J. Newton.
OUTERFRAT.—First, H. Beldon. Second, A. K. Wood, Burnside, Kendal. *Chickens.*—First, Second, and Highly Commended, H. Beldon. Commended, T. Fawcett, Baildon, Leeds.
PERASANT (Golden).—First, H. Beldon. Second, W. Thrupp, Silsden. *Chickens.*—First, S. & R. Ashton, Mottram. Second, W. Cannon, Bradford.
PERASANT (Silver).—First, H. Beldon. Second and Highly Commended, A. E. Wood. *Chickens.*—First, T. Robinson, Baildon. Second, H. Beldon. Commended, J. Clayton, Keighley; S. Butterfield, Keighley.
PERASANT (Black).—First, C. Sidgwick. Second, J. Hargreaves, Skipton. Commended, H. Beldon. *Chickens.*—First and Second, C. Sidgwick. Commended, H. Beldon; S. Butterfield.
HAMBURG (Golden-pencilled).—First, A. K. Wood. Second, S. Smith, Northram. Commended, H. Beldon; T. Wrigley, jun., Tonga, Middleton, Manchester. *Chickens.*—First, S. Smith. Second, J. Smith, Bingley. Highly Commended, I. T. C. Fawcett. Commended, H. Beldon; T. Wrigley.
POLAND (Golden or Silver Pheasant).—First and Second, H. Beldon. *Chickens.*—First, H. Beldon. Second, H. Bowker, Keighley.
POLAND (White-crested).—First and Second, J. Smith. *Chickens.*—First and Second, J. Smith.
DORKING.—First, J. Pinder. Second, H. Beldon. *Chickens.*—First, H. Beldon. Second, H. Pickles, jun., Kirby. Commended, C. Sidgwick.
GAME (Red).—First, J. Hodgson, Bradford. Second, G. Noble, Staincliffe. Commended, J. Bradford. *Chickens.*—First, J. Bradford. Second, H. Beldon. Commended, W. Spencer, Haworth; J. Midgley, Haworth; W. H. Robinson, Long Lee; W. Fall, Adwalton.
GAME (Any other variety).—First, W. Fall. Second, J. Bradford. *Chickens.*

—First, A. Hodgson, Illingworth. Second, T. Wilcock. Commended, W. Fall.

BANTAM (Black, White, or Game).—First, E. Hutton. Second, W. Cannon. Commended, Rev. W. J. Mallor, Colwick Rectory; W. Newholme. *Chickens.*—First, G. Noble. Second, W. Newholme. Commended, E. Hutton.

ANY OTHER DISTINCT BREED.—First, H. Beldon. Second, J. Dixon. Commended, H. Bowker. *Chickens.*—First, R. W. Boyle. Second, H. Bowker. Commended, J. Hargreaves.

DUCKS (Bouen).—First and Second, J. Dixon. Commended, F. G. Godwin, Sheffield.

DUCKS (Aylesbury).—First, E. Leech. Second, W. Newholme. Highly Commended, J. Newton.

DUCKS (Black Indian).—First and Second, J. Hargreaves.

DUCKLINGS.—First, E. Leech. Second, E. Hutton.

GREEN.—First, E. Leach. Second, B. Baxter.

PIGEONS.

POWER OR CROPPER.—Cock.—First, J. Thompson, Bingley. Second, G. W. Brown, Bradford. Commended, C. Cowburn. *Hens.*—First, E. Horner, Leeds. Second, J. Thackray, York. Commended, C. Cowburn.

CARRIER.—Cock.—First and Second, E. Horner. Commended, J. Firth, jun., Dewsbury; F. Crossley. *Hens.*—First, F. Crossley. Second, E. E. M. Royds. Commended, E. Horner.

TUMBLERS (Almond).—First, J. Thackray. Second, C. Cowburn. Commended, E. E. M. Royds.

TUMBLERS (Mottled).—First, E. E. M. Royds. Second, J. Percival. Commended, E. Horner.

BALDS OR BEARDS.—First, J. Lister. Second, J. Fielding.

OWLS.—First, S. Wade, Ovenden. Second and Highly Commended, J. Fielding.

TURBOTS.—First and Second, J. & J. Wade.

JACOBINS.—First, J. Thompson. Second, J. & J. Wade.

FANTAILS.—First, J. Thackray. Second, C. Cowburn.

BARDS.—First, J. Firth, jun. Second, H. Yardley.

DRAGONS.—First, F. Crossley. Second, J. Lister.

TRUMPETERS.—First, J. Thompson. Second, J. Thackray.

MAGPIES.—First, J. Thackray. Second, H. Yardley.

ARCHANGELS.—First, G. W. Brown. Second, H. Yardley.

ANY OTHER BREED.—First, G. W. Brown. Second, H. Yardley.

RABBITS.—*Long-eared.*—First, F. Mosey, Leeds. Second, W. A. Smith. *Any other Description.*—First, R. Binns, Bradford. Second, R. Scott, Calversky Hill.

JUDGES.—*Poultry:* Mr. R. Teebay, Preston. *Pigeons:* Mr. J. W. Thompson, Southowram.

HALIFAX AND CALDER VALE AGRICULTURAL ASSOCIATION'S POULTRY SHOW.

THE twenty-eighth annual Exhibition of this Society was held in Clarendon Hall, Halifax, on Saturday, the 25th ult., and was extremely successful, financially and otherwise, the arrangements being ably carried out by the Committee and Secretary. The entries numbered 472 pens of poultry, 207 of Pigeons, and 6 of Rabbits.

Spaniels, as usual, headed the list, but most of the birds were much out of condition. Messrs. Burch & Boulter took first prize in the Adults' class with a pen of very great merit. The Chicken class contained some good pens. Mr. Pinder's first-prize birds were forward. Many very promising pens were exhibited, although rather young for competition. *Dorkings* were an average lot. The Hon. H. W. Fitzwilliam's first-prize chickens were very fine. *Cockins* were fairly represented. In Buffs, Mr. Harvey's first-prize pen contained a magnificent cock, exquisite in colour, and in capital condition. Messrs. Brierley, Spencer, and Stretch each showed good birds. *Brakhens* had four classes—Light and Dark, Adults and Chickens. Mr. Boyle's first-prize Dark chickens stood quite clear of competition. Messrs. Pigeon, Roberts, and Pickles took the other principal prizes. The show of *Game* was large, nearly all the classes being well filled. Mr. Brierley had the cup for a single cock with a Black Red in capital trim, and the cup for chickens went to Mr. Firth's first-prize Brown Reds. Most of the adult *Game* were in deep moult, and the chickens were generally later than usual at this Show, the most noticeable in addition to the above-named being Messrs. Firth and Fell's Black Reds, and Messrs. Fletcher, Boyes, and Hodgson's Duckwings. The single *Game* pullets numbered twenty-four pens, the first and second prizes being awarded to Mr. H. Crossley for very early Grouse-coloured birds. The *Polands* were not numerous, but good. *Hamburgs* were a large and good collection. The cup for the best pen was awarded to Mr. Beldon for Silver-spangled chickens. The pullet in this pen was most unusually good. The prize Silver-pencilled chickens also deserve notice. Mr. Roe's Golden-spangled chickens were remarkably fine, and well merited their position. In *Game Bantams* Messrs. Rhodes, Noble, and Brierley had the principal prizes with good specimens. In Laced, Mr. Roy had the first and second prizes with good Silvers. The class for Any other Variety of Bantams was good, Blacks being first, Japanese second, and Blacks third. The latter were deserving of a higher position in the list.

Ducks, Geese, and Turkeys formed good classes. Mrs. Seamons, Mrs. Dale, and Messrs. Leech, Gamon, and Stott, dividing the principal positions. In Any other variety of poultry the Hon. H. W. Fitzwilliam and the National Poultry Company showed good specimens, *Crève Cœur*, *Houdan*, and *La Flèche* being well represented.

The *Pigeons* formed a show of themselves, and were placed in a tent adjoining the poultry. The cup for the best pen was awarded to Mr. Colley for a remarkably good Black Carrier cock. Messrs.

Harvey, Thackray, Fulton, and Robinson exhibited first-class *Powters*. Mr. Hedley's Carriers also deserve mention, and Tumblers were fairly represented in the different classes allotted to them. The Owl class was particularly fine, Mr. Robinson's first-prize pen of Whites containing undoubtedly the best hen ever imported, accompanied by a good cock. It is very seldom the old English Owls are now seen at our exhibitions, the beautiful *petite* foreign variety having now altogether superseded them as show birds. English Owls are, however, much more worthy of a class than many for which prizes are offered, such as Magpies, &c., at this Show, and we hope they will in future be properly classified. The foreigners beat them in competition; but we should very much regret the loss of our old favourites, such birds as fanciers will recollect a few years ago in the Blues of Ridpath, Rake, and Cannan, the Silvers of the latter and Morgan, and the Powder Blues of Harrison Weir and Mewburn. In Barbs, many of the first-class birds known were sent. Yellows were first, Reds second, Blacks very highly commended, and Whites received high commendation; the class also contained some extraordinary Blacks, but they were in rather bad feather. In Trumpeters the recent introductions do not yet show much, but are destined to revolutionise the Trumpeter fancy. The first prize went to capital light-beaked Blacks, the second to Mottles. It is a very remarkable fact that no advance has been made in this breed since Mr. Mewburn's exhibition days, and we believe three out of the four birds in the prize pen were originally from the lofts of that gentleman. The old Mottled hen is lost, and the substitute requires the help of her wonderful old partner, the Mottled cock, shown by Mr. Mewburn seven years ago. We may soon expect to see more of the Russian birds, and then judicious breeding will show the advance. Fantails were good. Many of the other classes do not require special notice.

In the Selling class foreign Owls, Blues and Whites respectively, took the prizes, and were claimed for the owner, thus defeating the object intended—a practice we cannot too strongly reprobate. This means of obtaining prizes has now become very frequent in both poultry and Pigeons, and it is quite time either to discontinue the class or take measures to prevent the recurrence of such practices.

A list of the awards appeared in our Number of the 28th ult.

DEWSBURY POULTRY SHOW.

THIS, of which we published the prize list last week, would have been a great success had the weather been more favourable. The prizes for poultry have been increased, in addition to the beautiful silver cup, value five guineas, for the best pen in the Show, which was awarded to a capital pen of *Spanish* belonging to Mr. Thresh, of Bradford. The next pens in merit were Mr. Beldon's perfect Golden *Polands* and Mr. Boyle's equally beautiful *Brahma* chickens. In several of the classes the entries were very few, and we feel surprised at this, as the prizes were equal to those offered at any of our local shows, in many of which we often find twelve or fourteen entries, and often more. In the *Cochin* cock class the first-prize bird was remarkably fine, and the two prize pens of adult *Spanish* were both of great merit. In *Dorkings* there was nothing worthy of particular notice. The adult prize *Brahmas* were very good, but Mr. Boyle's chickens were the best in the two classes. The whole of the *Game* classes were well represented; but the entries were very few in all the classes. The *Hamburgh* classes were mostly good in quality, but few in numbers. Mr. Beldon's Silver-spangled were first-class, and Mr. Walker's Gold-spangled cock was about the best we ever saw. There were several pens of good *Bantams*, and among both the *Aylesbury* and *Rouen Ducks* many were really good. Mr. Leech's *Aylesburies* were nearly all that could be wished for, and in the Variety class Mr. Hutton showed a very perfect pen of Grey Call Ducks; Mr. Fowler's East Indian were also very good.

The *Pigeons*, as usual, formed a very attractive feature, and had the day been favourable it would have added materially to their comfort, for they were totally unprotected from the weather. The Committee used every effort to promote the well-being of the birds, and if all go well in future years we believe that, as in the case of the Halifax and Calder Vale Society, a tent will be erected for their special protection. The number of entries amounted to about 162 pens, and there were few of them empty. Unfortunately the Committee had accidentally misplaced one or two pens, and this was not found out until the Judge had made his awards. This was somewhat annoying to the exhibitor, whose birds we think would have taken a good position. The Committee gladly offered to make every reparation in their power for the oversight. The classes opened with that for the best *Powter* cock, and some excellent birds were shown, Mr. Royds being first with an excellent white, and Mr. Thackray second with a very good bird. In *Powter* hens Mr. Thackray was first with a Blue hen of great length and well shown, Mr. Horner being second with a Blue hen of nearly equal merit. In the class for Carrier cocks Mr. Horner took the first prize with a very fine Black, Mr. Firth being second with a good bird of the same colour, Mr. Brown and others also showing good birds; indeed, this was a good class. In Carrier hens Mr. Royds was first with a good Black, Mr. Horner being second. This was a good class. In Almond Tumblers Mr. Royds was first and Mr. Thackray second. Some of the birds in this class were in bad condition, and the unfavourable state of the weather did not improve them. In Any other

variety of Tumblers Mr. Cowburn took the first prize and Mr. Royds the second. In Turbitts Mr. Thackray was first with good birds and well shown, Mr. Horner closely following him for the second place. There were eleven pens in this class, and of good merit. In Jacobins Mr. Horner was first and second, and in Trumpeters Mr. Jesse Thompson and Mr. Horner occupied the same relative positions. In Owls Mr. Pickles was first with an excellent pen of Whites, which were claimed at ten guineas. In Barbs Mr. Firth took the first prize with good birds, Mr. Thompson being second. In Fantails Mr. Thackray was first, Mr. Cowburn second. In Nuns Mr. Thackray was first and Mr. Thompson second, both pens being of good merit. In the Any variety class some excellent birds were shown, Mr. Thackray taking the first prize and Mr. Yardley the second.

The Judges were:—For Poultry, Mr. James Dixon, of Bradford, for Pigeons, Mr. J. W. Thompson, Southowram, Halifax.

WAKEFIELD POULTRY SHOW.

(From a Correspondent.)

THE second annual Exhibition of the above Show, since it was amalgamated with another district show, was held on Saturday the 1st inst. in the Belle Isle Field, on the Sandal Road, within a few minutes' walk of Wakefield Station, and proved one of the most successful ever held both as regards the entries of horses, pigs, poultry, &c., and the attendance of visitors. About eleven o'clock the rain came down freely, and it seemed as though there were no signs of a successful gathering; but after a little thunder and a sharp shower or two the weather cleared up, and visitors thronged the ground until it became a matter of time to obtain a view of almost any of the subjects exhibited.

In the poultry department there were in the first class seven entries for a cup value £4, for the best pen of *Game*, any age or colour. This prize fell to Sir St. George Gore's Brown Reds—a hen of first-class quality, but the cock was a little coarse about the head. He was, however, very hard pressed by a pen shown by Mr. Brierley, containing an adult Black Red cock along with a pullet, and so near were the first and second prize pens that the Judges seemed almost at a loss which to place first. In the class for Black-breasted and other Reds, any age, six pens were exhibited. The first prize fell to a pen of Black Red *Game* chickens, the cockerel being undoubted, and the pullet of first-class quality. Adult Brown Reds, the property of Sir St. George Gore, were second. Next came Duckwings. The first-prize cock was an excellent bird, but the pullet only moderate. The second-prize pen contained a pullet with a very round back, and it must have been the style of the birds which obtained them the position they occupied. The Variety class consisted of three pens, Blacks being first, and Piles second. In the class for *Game* pullets of any colour, the first prize went to a pair of very large strong Brown Reds, but not of first-class quality. *Dorkings* and *Spanish* were only poorly represented as regards numbers. *Cochins* consisted of six pens. The first and second prizes were taken by Mr. Brierley. The former pen contained one of the best cocks the writer has seen for some time, and one that will be difficult to beat. The *Brahma Pootra* class consisted of four entries, and *Polands* of two. The latter belonged to Mr. Beldon, and were much admired. *Hamburghs* were good. The classes for Golden-pencilled, Silver-pencilled, Golden-spangled, and Silver-spangled consisted of four, four, eight, and five pens respectively. The winning birds in each were well worthy of their places, the Pencilled ones in particular. In the class for Any other distinct breed the National Poultry Company carried off both first and second prizes with *Crève Coeur* and *Houdan*. In *Game Bantams* the first prize fell to Mr. Newsome, the second to Mr. John Crosland. There were eleven entries, but one or two pens were vacant. For *Bantams* of any other variety Mr. F. L. Roy was first with Pencilled, and Mr. Enoch Hutton second with Blacks.

Aylesbury Ducks were only very moderate, with the exception of Mr. Leech's first-prize pen; but *Rouens* were good. In the class for any other variety of Ducks I think the Judges made a serious mistake in awarding the first prize, as the birds in the pen of Brown Calls exhibited by Mr. Hutton were very small, and the Duck's beak perfect. The Duck in the first prize pen was black throughout, which, if I mistake not, in *Rouens* is a disqualification. Certainly the Brown Calls should be as good in bill as the *Rouens*, and, if more difficult to obtain, so much more should good ones be encouraged. Mr. Jessop took the second prize with little beauties. The class for extra stock contained a Duck with three legs.

A list of the awards was given last week.

GAME BANTAMS, RAYNOR'S STRAIN.—As Mr. Manning has more than once stated in your columns that he "has purchased the whole of the Rev. G. Raynor's stock," will you kindly allow me to make the following addition to his statement?—"With the exception of the Manchester cup and first-prize pen, and a first-rate pen of chickens, which were purchased by myself."—W. J. MELLON, Colwick Rectory, Nottingham.

CHEAP SUPERS.

SOME time ago, being rather at a loss for a super for a common straw hive containing a Ligurian swarm, I placed upon the top of the hive an ordinary flower-pot, having previously filled up the hole at the top with a cork, to which I affixed a small piece of comb. I then placed over all an empty hive, which fitted over the under hive, and rested upon it, protecting the super from wind and weather. The bees immediately began to work in the flower-pot, and I removed it a few days ago filled with honeycomb. The difficulty which is often experienced in driving bees from supers, when taken off, is entirely obviated by this arrangement, for after the flower-pot is removed you have only to place it on a tray and give it one or two sharp blows with a hammer in the line of the combs so as to break the pot, when the sides will fall away, carrying the bees with them, and leaving the combs standing with scarcely any bees upon them. Lift the combs on to a dish, and leave the bees on the tray to find their way back to the hive.—F. Westmoreland.

BEES AS REGICIDES.

In my last communication which appeared in page 55, I mentioned two instances in which young queens at the heads of swarms which had issued naturally, were found imprisoned in the evening of the day on which they were hived. Observation has led me to believe that the majority of regicides are occasioned by the presence of strange bees, and this seems to offer a solution to the cases referred to.

A prime swarm under an old queen had issued from one of my hives on the preceding day (Sunday), and had remained in the skep in which it was hived until the following morning. I then captured the queen, and sent her off to a distant apiary, allowing the bees to return to their native domicile. As is usual in such cases, many of the bees continued for some hours to hunt after their queen, and some of these in all probability entered the skep in which the swarm under the young queen had been temporarily located, and finding a strange queen had made an attack upon her. I think that a similar state of things would also account for the attack upon the second queen, which I rescued and placed at the head of a queenless nucleus, where she has proved herself the best queen I have yet reared and tested; her progeny being fully equal to that of the old queen.

At times, however, bees do destroy their own queens in a most inexplicable way. A hive sent out a swarm early in July, under an old queen. I caught the queen, and presented her to a neighbouring apiarian, and after removing all the royal cells from the stock, gave them some nearly ripe royal cells reared from the brood of my original queen. In two or three days I found a fine queen at liberty, and all the superfluous royal cells destroyed. In three weeks I again inspected the interior of the hive to see what progress the queen had made in laying, and found brood in two of the central combs, but to my surprise one of them contained six or more royal cells, formed upon the face of the comb, as artificial cells usually are. These I removed, thinking it probable that the queen was still in the hive, and that the removal of these cells would prevent any further attempt at swarming, as the end of July was fast approaching. In two or three days I found a second batch of royal cradles had been almost completed, and a careful examination confirmed my suspicions that the queen herself had disappeared from the hive. These cells were also destroyed, and after a time some more royal cells, raised from the old queen, were presented to the bees, from which I expect a queen will emerge either to-day (August 22nd), or to-morrow.

Two other hives are also now raising queens from the brood of the old queen. A queen which came forth in my uncomb hive upon the 29th of July was not impregnated till Sunday last (August 19th), when twenty-one days old. She has not yet commenced egg-laying.

How very little has been effected by "B. & W." with the queen presented to him by Mr. Woodbury last autumn; her hive might have been strengthened in the spring by brood from other hives, and young queens might then with very little trouble have been raised from her brood to place at the head of all his other stocks. The season has been practically lost, and he will be in a much worse position next year, as the pure queen will then have a poorer chance of proving prolific in 1886, and our friend will not be able to raise any great number of Italian drones before that time.

Although all my hives this spring (eight in number), were headed by mothers bred from the pure queen in the preceding year, and have reared a prodigious number of drones, I find that a majority of my queens this summer have mated with black drones. The old queen is, I am glad to say, all right, and will, I hope, enable me to raise a fresh lot of queens next summer.

I find that all her progeny, whether mated with black drones or not, produce very well marked workers; but if their descendants again mate with black drones, the workers then approach very nearly to the colour of their paternal ancestors.

This has been by far the best honey season I have ever experienced. Of four storified hives only one abstained from swarming. In one of them the queen got into the super and laid there a vast quantity of brood. The swarm from this hive was accordingly not returned, as I did not prize the adulterated super.* In another instance the queen was captured and presented to a neighbour. The native royal cells were excised, and some from brood of the old queen substituted. In the other case I returned the swarm, queen and all, but in about eight days the old queen was ejected—killed no doubt by a young rival, and I was then compelled to remove all the royal cells to prevent the issue of another swarm.

Three of the supers weigh fully 40 lbs. each of pure honey. The fourth, not yet taken, ought to contain from 50 lbs. to 60 lbs. At the same time the stocks themselves are quite overdone with honey, every comb being full of sealed honey or pollen, so that breeding at present is entirely confined to the nadirs.—J. E. B.

THE HONEY SEASON IN HADDINGTONSHIRE
FERTILE WORKERS.

In May last "A DEVONSHIRE BEE-KEEPER" recorded the existence of that curious phenomenon—fertile workers. In the early part of the year I had a case of the same kind, and would have noticed it had not other avocations occupied all my time; but as it affords such clear proof of the existence of fertile workers, it may be of interest even now. The case to which I refer occurred in the hive containing the Ligurian queen which I received from Mr. Woodbury. I had examined the hive in December, and found that the queen was laying eggs. Seeing this I did all I could in the way of keeping it well covered up. Early in February I found one day on the board what appeared to me a queen, but much shrivelled up; but I could not be certain at the time that it was the remains of the queen. It was not long, however, until I noticed, by the way the bees ran about the mouth of the hive on fine days, that the queen was wanting; but as I could not do anything to assist the hive at the time, I allowed it to go on as it was. One day in the middle of March I examined every comb, and found all the brood hatched with the exception of a queen's cell still sealed. Here then was clear proof that the old queen was dead, and the bees were endeavouring to rear a new queen. In a cell close beside the queen cell I saw what I thought was an egg; but there being only one, and seeing at the same time the queen's cell, I was puzzled at its being there at all, as I had looked carefully among the bees for a queen but could not see one. I then put back all the combs into the hive and allowed the hive to remain for other two weeks, when, on examining the combs again, I found a number of eggs laid in workers' cells; but the eggs first laid were giving evidence of their being drones, as the cells were elongated, and so, in fact, every egg turned out to be a drone egg. At the same time I broke open the queen's cell, and found that it only contained some dark brown matter. I looked carefully over the combs for a queen, but none could I see. I examined the hive again along with a friend, and still found new-laid eggs, but no queen, or any bee which could be distinguished from another, and it was impossible she could escape us, as there was no great number of bees in the hive. I showed the hive also to others who had never seen anything of the kind, but still no queen. I allowed it to remain to see what it would turn to; drones of course were hatched, though small, and in fine days came out, but not many, and a few bees carried pollen at times.

In the May number of the "Scottish Gardener" the writer on bees, after some very depreciatory remarks on Huber's "enthusiasm" and "seeming honesty," and his maintaining

* The brood-comb was subsequently excised, and a swarm added to the colony to enable the bees to complete the super.

the existence of fertile workers, thus challenged all those "who write lustily about fertile workers."—"If there should be one fertile worker in all England or Scotland this year, I will here offer £10 to the owner if he will send her to me; and if he does not want to part with her I will give him £10 to the poor of his parish if he will send me a dozen of her eggs. And let me hope that these writers will hold their tongues about fertile workers till they honestly meet my challenge and offer, and produce one of what they write about." A friend, a bee-keeper, who had seen my hive, urged me to take up the challenge, as he thought I could. The hive gradually dwindled away till the middle of May, when there were no more bees than would have filled a common tea-cup. Still drone eggs were laid up to that time, and although other four bee-keepers and myself examined every individual bee, we could not see any difference among them, and certainly no appearance of a queen. This is now the third case of fertile workers which I have had; but it affords the clearest evidence of the existence of such, as had those eggs even been laid by a queen, that queen could not have been mated, as it was eight weeks after they were laid till any drones were seen in my other hives.

In this locality the present year has not been such a good season for honey as the last. The weather was too dry, the furze and clover, were soon over, and very little flower honey has been obtained in the ordinary way of management. I have been very fortunate myself, having had nine supers from six stocks which I had in the spring, or nearly 2 cwt. of honey, the heaviest super containing 38 lbs. I have been endeavouring to prevent swarming this year, and have succeeded in some cases, but as completely failed in others, although there was abundance of room. I intend to increase the number of bars in the Woodbury frames up to twenty or twenty-four. I have done so with success up to fourteen bars, but it is not enough yet, as the queen has filled all the fourteen bars with brood.

I had one top swarm, the bees alone weighing 84 lbs., the heaviest which has ever been in this part of the country so far as I am aware.

Foul brood has entirely disappeared from my own and my neighbours' hives, but I knew of several cases in other apiaries in this neighbourhood, and they all occurred in the old cottage hives and managed in the usual way.

The bees about here are now (August), all at the hills among the heather, and if we have fine weather for two weeks I expect as much more honey as I have obtained, but if we have bad weather many hives sent away will not obtain enough honey to keep them all winter, and heather honey will not be plentiful. —ALEX. SHEARER, *Yester Garden*.

MOUNTAIN SILK OF NORTH CHINA.

MR. CONSUL MEADOWS, whose consular district includes Manchuria and Eastern Mongolia, reports that mountain silk remains as yet the one article which the district is likely to furnish to England. There are two crops of the mountain cocoon, a spring and an autumn; the autumn much the largest, but the spring greatly superior in quality. In the autumn the cocoons intended for the spring crop are placed in baskets, which are hung up in Chinese dwelling-rooms facing the south, but still having a temperature in the greater part of the winter considerably below freezing point. The natural heat of spring suffices to bring the chrysalis out of the cocoon in the butterfly state. The butterflies then couple, eggs are produced in four or five days, and are laid on paper spread upon mats and tables. In a few days each egg produces a very small black worm which is nourished by young oak leaves that are gathered and scattered over the paper. After some days the worms are transferred to the oak bushes on the hill slopes. After its first sleep or torpor of a couple of days the worm becomes green in colour and larger in size. For its fifth sleep it prepares by spinning itself into a cocoon, in which it assumes the chrysalis shape. When the worm begins to make its cocoon, it selects two or more oak leaves, more or less facing each other, and joins them together by a network of the silk thread which keeps issuing from its mouth as it moves its head from the one leaf to the other, holding on by its back claws to the twig from which the leaves grow. When the leaves are sufficiently joined to form a sort of cup or basket under the twig, the worm drops into the receptacle it has thus formed, first quite surrounds itself with the loose, flossy-like silk which forms the outer portion of the cocoons as they come to market, and then proceeds to thicken

the inner surface by further thread-spinning, till its bulk is, sufficiently decreased for its turning into the chrysalis shape. The best silk is produced by nourishing the worm on the leaves not of the oak, but of the "Tseen-tao-tze," which exists, however, only in small quantities. The chrysalids which are not kept for breeding are used by the Chinese as an article of food. Not a tenth of the hillside suitable for the oak bushes are at present planted with them; but considering the quantity of silk already produced, it may be taken that the trade could be developed into one of appreciable importance even for our great manufacturing interests, unless exactions and jealousies of the local mandarins interposed to repress it.

[We recommend this silkworm to the attention of the Acclimatisation Society. Surely it might be naturalised in this country with advantage.—Ede.]

OUR LETTER BOX.

DARK COCHINS PRODUCING WHITE CHICKENS (M. E. H.).—Such sports are not very rare. Still, they are often considered sports when they are really nothing of the sort, but a simple throwing back. For instance, we believe those you have bred would do so, and probably in one batch would produce dark and white birds. The Black Cochins were said to be produced by mating a Buff cock with a White hen. White Cochins are more prone to be falcon-hooked than any others. Seeing yours have it, and that their origin is at least doubtful, we do not advise you to keep them.

DEWBURY POULTRY SHOW.—The winner of the silver cup for the best pen in the Show was Mr. James Thresh, Manchester Road, Bradford, not James Threshy as published.

PRESERVING PEARS WHOLE (Poire).—The following is from a French work on confectionery:—"Take care that the pears be not too ripe; they are fit as soon as the pipes are black. Set the pears on the fire with sufficient water to cover them; take them off when quite soft, and put them into cold water; pare them lightly, cut off the stalks, prick each with a pin sufficiently long to reach the core, and put them again in cold water, with a little alum; set them on the fire to boil until the pears are tender, then take them out, and put them in cold water for the third time. Clarify and boil some sugar to *petite lisse*; put some water to it, and when it boils add the pears, cover the pan, and give the whole a boil; skim, pour it into an earthen pan, and leave it. The next day drain the syrup from the pears, add a little more clarified sugar to it, and boil it again to *petite lisse*; pour it over the fruit, and leave it as before. The next and two successive days proceed in the same way, each time decreasing the degree of boiling until it reaches *grande perle*; then add the pears, give the preserve a boil (covered), skim and pour it into a pan, place it in a stove for two days, then drain the fruit, and put it by for use."

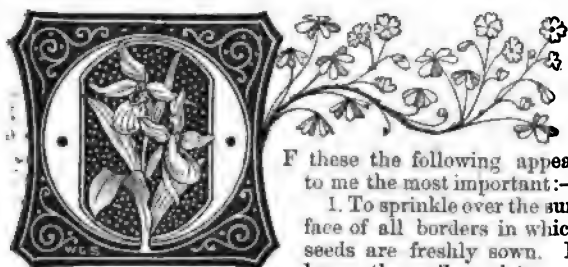
TYPE GRAPE WINE (S. W., Wiltshire).—The following are the directions given by "UPWARDS AND ONWARDS," the most successful maker of grape wine that we know:—"Directly after the grapes are gathered and weighed, they should be picked from their stalks into one of the large pans; and the pestle and mortar being deposited on the washing-bench, having the fruit on one side and an empty pan on the other, bowl after bowl of grapes should be crushed in the mortar; not by a vertical jam, but by working the pestle with a light circular horizontal motion, using sufficient force only to macerate the skins and pulp without smacking the pipe, for in the latter case they would impart an unpleasant roughness to the wine. The pulp is emptied from the mortar with the lading bowl into the pan, and so on until the bruising process is completed. When a pestle and mortar cannot be had, the grapes can be hand-crushed in the colander, made to rest over the pan upon the two squared stakes. Now strain about a pint of the juice from the must, and prove it by the saccharometer, which is done by nearly filling the tin tube that belongs to it and immersing the glass instrument therein, when the specific gravity of the juice is read on the index plate, and the stated degree should be noted down. On the supposition that ten gallons of wine are to be made, 30 lbs. of grapes, exclusive of their stalks, will be a good proportion to make use of, and we shall conclude that this is the weight of the now-called 'must' in the pan before us. Toss two gallons of clean cold water into it, and stir it about well with a large wooden spoon, or something to answer the purpose. Strain off a pint of the watered juice, and make a note of the specific gravity as before. Place the two squared stakes across the pan, and cover it over with a piece of druggist, or something of the sort, to exclude the air and preserve a temperature of about 60°. The must will now gain daily in sweetness, and should be well stirred, and proved daily with the saccharometer, until it is seen that the sweetness begins to diminish, and then no time must be lost in straining off, as the skins of the grapes would deteriorate the juice by remaining longer with it. The wine-press now comes into action. To fit into the straining-box I use a bag made of strong cheese-cloth, into which, by raising the end, is ladled about a gallon of the must to be pressed, and the 'cheese' of compressed skins and pipe is emptied into a milk-pan, and so on consecutively. Before I used a press I carried out this process as follows:—An empty pan was placed beneath the squared stakes, or a short ladder, and resting upon them or it the colander, into which the must was ladled by degrees; the juice was then well pressed by the hands from the skins and pipe into the pan below, and the refuse tossed into a milk-pan, and so until the muscles of one's arms became rigid. The strained-off juice is now measured with the tin can, and in every probability, it will be found to have run eight gallons, then one gallon and a half of clean water will be sufficient to pour over the skins and pipe in the milk-pan, and if this water can be heated to a temperature of not more than 80° so much the better. Let it be well stirred amongst the skins and pipe to express what virtue remains in them; then strain it off and add it with the juice in the working-pan, and the united quantity should slightly exceed ten gallons. I may mention that I never add a drop of raw spirits to my wines of any description."

WEEKLY CALENDAR.

Day of Month.	Day of Week.	SEPTEMBER 18—24, 1886.	Average Temperature near London.			Rain in last 50 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days	m. a.	
18	Tu	Bouvardia versicolor.	66.8	46.6	56.7	18	41 af 5	8 af 6	37 af 2	43 af 11	9	5 58	261
19	W	Browallia elata.	67.0	45.1	56.1	19	42 5	5 6	18 3	morn.	10	6 15	262
20	Th	Browallia speciosa.	66.9	44.1	55.5	17	44 5	3 6	55 3	43 0	11	6 38	263
21	F	Sun's declination 0° 42' N.	66.4	45.1	55.7	21	46 5	1 6	29 4	48 1	12	6 57	264
22	S	Brugmansias.	66.7	45.4	56.0	19	47 5	59 5	58 4	58 2	12	7 18	265
23	SUN	17 SUNDAY AFTER TRINITY.	66.4	46.1	56.2	20	49 5	56 5	27 5	10 4	14	7 39	266
24	M	Brunsvigia toxicaria.	65.9	44.5	55.7	18	51 5	54 5	55 5	26 5	0	8 0	267

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 66.6°; and its night temperature 45.8°. The greatest heat was 81°, on the 20th, 1843; and 24th, 1833; and the lowest cold 29°, on the 20th, 1856. The greatest fall of rain was 1.31 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

USES OF COCOA-NUT FIBRE REFUSE.



Of these the following appear to me the most important:—

1. To sprinkle over the surface of all borders in which seeds are freshly sown. It keeps the soil moist, and offers no resistance to the seed leaves.

2. To cover the surface half an inch deep in spring of beds in which Verbenas and other delicate bedding plants are planted. It looks neat, and keeps down evaporation, so that but little watering is required even in hot dry weather.

3. In soils not favourable to Rhododendrons and other peat-earth shrubs it does much good. A circle of it 1½ foot or so—according to the size of the plant—in diameter, and from 1 to 2 inches in depth, should be formed around each. It keeps the surface cool, promotes growth, and seems as it decays to form a soil into which they root freely; the latter not yet quite proved, the former a certainty.

4. In planting Roses in autumn, winter, or spring, a circular covering of the depth and width above mentioned is most valuable—if in the autumn and winter, it keeps severe frost from the roots of the newly-planted trees, and if in spring it prevents injury from drought. Applied in this way to evergreen trees and shrubs of all kinds planted in spring it is most valuable.

5. In a tenacious soil a dressing 3 or 4 inches thick, well mixed when stirring it with the digging-fork, is very advantageous.

6. It may be used with good effect among rows of Strawberries, or strewed under the fruit when in beds. It keeps the fruit clean, the soil moist, is neat in its appearance, and prevents slugs from crawling on the surface and eating the fruit; the latter not thoroughly proved, but quite probable, as they did not put in an appearance last summer as usual when it was employed; it is just possible that it makes travelling uncomfortable. Above all it saves watering; a dressing 1 or 1½ inch thick prevents evaporation to a remarkable extent.

7. For plunging pots in pits or frames it is neater and more cleanly than old tan, and equally efficacious in keeping the roots of plants from injury from frost. It is a perfect nonconductor; this must be borne in mind in summer, as it keeps out heat, and is not good for the roots of plants requiring heat.

8. When perfectly dry it is most useful in packing fruit to send to a distance; it is so elastic as to prevent the bruising of Peaches, even when overripe.

9. It will be found a very valuable material in which to preserve late-keeping Pears, far better than bran, which is apt to become musty. The fibre has literally no smell, and even when laid in large heaps does not ferment.

10. It forms one of the most efficient protectors for dwarf Roses in winter. For this purpose it should be piled up round their stems, so as to envelope them closely, to a depth of 9 inches.

I should not feel surprised if some of your readers add to this list of uses. I have no interest in anything appertaining to the making of cocoa-nut fibre. In these times it is quite necessary to disarm suspicion.—T. R.

THE NEW ROSES OF 1865 AND 1866.

In the name of the many Rose amateurs, I would thank "D., Deal," Mr. Kent, Mr. Pryor, and others, for their occasional letters, in which they kindly give us the benefit of their judgment and experience in the selection of the more modern Roses, and I wish that more amateur florists and nurserymen would impart unselfishly what information they can for the pleasure and guidance of others. As regards myself, and I dare say others of my class, I could wish such letters came earlier, before the budding season was so far advanced, to corroborate other worthy information; for although if a new Rose is at all promising, from the recommendation of a reliable raiser or grower, I am uneasy till I obtain it, still I like to know as soon as I can, from more sources than one, which Roses I had better propagate the most freely. I have also, however, an opinion of my own, which in all deference I now venture to advance, and chiefly by way of supplementary comment on the recent letters of "D., Deal," and Mr. A. Kent, giving their selections of the Roses of 1865.

As a severe critic, resolved not to commit himself, "D., Deal," culls out *la crème de la crème*; but still I rather sympathise with the leniency of Mr. Kent, thinking that the mere *crème* contains many worthy of a more extended trial, during different seasons, amongst which we may often find first-class blooms; and that if we discard all but the very best, our stock may be too limited to furnish our stands of forty-eight on given days. It was some time before the excellencies of even Charles Lefebvre were detected and established.

"D., Deal," will excuse my saying that his present repetition of his selection of the 1865 Roses, given in December, 1865, is slightly erroneous. I think his first list included King's Acre, and did not include Duc de Wellington. Every Rose now selected by "D., Deal," is good; if I ventured to alter the places he assigns to those after Maréchal Niel, I should be disposed to give them the following order of precedence:—

Marguerite de St. Amand, on whose merits I pronounced very decidedly, and very soon after her introduction to England. Her novelty and distinctness, added to her other good qualities, entitle her, I think, to the first place.

Duchesse de Caylus.—I could wish she wore more crinoline, like "Prudence Besson" of this year; and, oh! that she may have a numerous progeny of similar forms in different coloured dresses.

Madame Moreau is distinct, and though rough is large enough to be placed in an exhibition stand before becoming so large as to show much roughness.

Duke of Wellington.—The only fault of this, I think, is that it is too thin.

Dr. Andry.—A capital Rose, though the colour is not very different from that of many other accepted ones.

Xavier Olibo.—If he had but a few more petals his glorious colour would give him a leading and lasting position amongst Roses. He opens well enough in these districts.

Monsieur Boncenne is with me a shy bloomer, though, of course, good.

Mademoiselle Amélie Halphen is a beautiful Rose.

Eushton Radclyffe.—"D., Deal," I think, has hit the weak point, delicacy of constitution.

For my part I have others to add, if only suggestively; some not even admitted by Mr. Kent; and if, as Mr. Kent says, "the respected name with which it is associated" gives the Rose *Rushton Radclyffe*, "a claim to consideration," may I not say the same for John Keynes, H.P.? and the Rose is a good one indeed withal, though not so even as one could wish.

Souvenir de W. Wood is a good dark variety. I had eight blooms all at once that were each what I may call "three-point" Roses. With more plants I cannot say the same of *Prince Camille de Rohan*.

Triomphe de la Terre des Roses.—(Why such names? We only cut them short in England.) I have only seen two blooms of this; both were shown by Mr. J. Keynes at the Crystal Palace Exhibition, June 23rd, 1886, and both were unquestionably fine and distinct. And here I may say parenthetically, that, although, no doubt yellow Roses are great acquisitions, I, for one, wonder with the French raisers why we English growers do not set more store on that suffused slate colour which they so admire. I think it a delightful change from the red, redder, reddest style.

Madame Roussel may be rather late to bloom, but I shall wish her to be in my garden when she does.

Michel Bonnet is surely worthy of our notice, though even Mr. Kent's leniency has not included him. Thus much for the Roses of 1866.

Good news for amateur rosarians. I think we may safely say that the Roses of 1866 include many that are likely to repay early purchasers.

Alfred Colomb, Exposition de Brie, Joséphine Beauharnais, Marcella, Madame Fillion, Mademoiselle Marguerite Dombrain, Mademoiselle Marie Rady, and William Rollison. I think will prove welcome additions for some time. I say "for some time," for I verily believe that before many years we shall have such an improvement, that Charles Lefebvre will be barely tolerated. Why should we not photograph our present A1 standard, and take micrometric measurements, and spectrum analyses of our best Roses?

I may add that I think the following list will contain a goodly proportion of excellent Roses, and there may be others, for every Rose has its season, and it is not fair either to the credit and satisfaction of raisers, or right for the guidance of growers, to speak with certainty of any new varieties from the experience of a single season, and that the first. I venture, then, to mention, as promising enough for enthusiastic rosarians to purchase, whose only limits are purse strings, and garden sides, the following candidates for popular favour:—Abel Grand, Aurore Boréale, Camille Bernardin, Charles Rouillard, Chevalier Nigra, Fanny Petzold, Frédéric Biborel, Fisher Holmes, Gloire de Ducher, Hippolyte Flandrin, Jean Lambert, Jean Cherpin, La Tendresse, Lacépède, Madame Hoste, Mademoiselle Berthe Leveque, Prince de Porcia (if it will fill up in the centre), Souvenir de Dr. Jamain (if large enough), and Mademoiselle Jenny Gay.

Let us hope also that our English seedlings may, in increasing numbers, prove themselves worthy of more extensive purchase by being rather more frequently exhibited in good condition.

I shall be told that I have mentioned twenty-eight, besides possible English Roses, and that it is improbable to a very high degree, that we can have so many good ones in one season. I do not say they will all prove good, but I do say that I have included none which have not a recommendation from the very first growers and judges in the land, including Messrs. Rivers, Keynes, Paul & Son, Wm. Paul, Dickson & Co., "D., Deal," "S. R. H.," Mr. Kent, Mr. Prior, "S. H.," and many good, though small growers, whilst some are omitted which have been favourably noticed even by reliable critics, as for instance *Alba mutabilis*, which has now thrice been selected by "D., Deal," himself, and which, therefore, I suppose, I must admit as my twenty-ninth. There are some I mention, even against my own judgment, because they are favourably spoken of by more than one, who have better opportunities than myself

for forming an opinion. There are conflicting opinions between good critics on others, which I can only solve on the grounds of situation, or "catch blooms."

I have spoken of Roses as if they were living beings, and to me they have a certain personality of existence. I think of them with a sort of identity with their names, and although they do not "walk and talk half an hour after their heads are cut off," still they are very telling flowers, and every really excellent new Rose is sure to have a good "run."

Since writing the above, I have read "D., Deal's" sequel to his selection of the Roses of 1865, in his selection of those of the present year, and I would end as I began, by thanking him for his trouble taken, in unselfishly making known the results of his own observation and experienced judgment. I scarcely think he can have seen some that I have mentioned, or he would have been constrained to have noticed them favourably, as he yet, perhaps, will do, after the autumn exhibitions.

Will a list of new Roses ever include a spirally-cupped improvement of the old "York and Lancaster" Rose? Surely it would be a pleasing novelty.—EDWARD N. POCHIN, *Silby Vicarage, Loughborough*.

BATTERSEA PARK IN 1866.

A COURTEOUS invitation from Mr. Gibson, coupled with a promise that he would accompany me over the Park, and a few hours to spare on a fine afternoon in the beginning of last month, were a combination of circumstances so favourable, that I had no hesitation in doing as I was asked, and accordingly have now to report progress.

Whatever anticipations might have been formed as to the probable failure of the sub-tropical department, owing to the very unfavourable character of the season, were quite dispelled on the very first glance of it. Of course things did not look quite so well as they did in the last brilliant summer; the violent alternations of temperature, the drenching rains, and, above all, the very cold nights have to some extent told everywhere; but having seen many places this summer, I can honestly say that I have seen less effects from it at Battersea than in any other spot that I have visited, and one could hardly believe on looking on the glowing masses of some of the beds—the *Coleus*, for instance—that they had had so much to contend with. I believe this is to be accounted for not by any special conditions of situation or soil, but by the constant care and attention given, and the thoroughly scientific as well as practical principles on which everything is cultivated.

We were met by Mr. Gibson at the entrance near the refreshment-room. The first bed that attracted notice was one composed of a star of *Coleus Verschaffelti*, the spaces between the points of the star being filled in with Golden Fleece *Pelargonium*. This has a very pretty effect, and Golden Fleece is found a much better variety for bedding-purposes here than Cloth of Gold. The bed was edged with dwarf plants of *Salvia argentea*; and I should add with regard to the *Coleus* that the bed is not flat, but that gradually the surface slopes upwards, so as to give it a convex appearance. This is effected by pinching off the shoots according to their position in the bed. Another, a circular bed, had *Coleus* round it, and the centre filled in with *Chrysanthemum Sensation*. This plant was somewhat run down last year, but it is a very nice dwarf variegated plant. Here, too, were some long narrow beds, in which the *Alternantheras*, of which so much has been said lately, were planted; and *Echeveria secunda glauca*, used singly as an edging, had a very pleasing effect. Near the refreshment-room were some beds, in which silver-variegated *Pelargonium Daybreak*, *Lucius*, a rosy orange, *Stella*, *Rose Rendatler*, and Gaines's Dwarf *Calceolaria* were used with much effect. *Lucius* is a very excellent variety sent out by Mr. Bull, and ought to be more used than it is.

We entered the sub-tropical garden at, I suppose, the south end, although my ideas of the points of the compass were somewhat confused. On the left-hand side as we entered were several fine specimen plants of *Cycads*, *Ferns*, &c.; among them *Seaforthia elegans*, *Cordylina australis*, *Latania borbonica*, *Dracena terminalis*, *Dracena longifolia*, and *Alsophila elegans*. Here again *Coleus Verschaffelti* comes out in great force. A round bed with *Coleus* in the centre star, filled in with Golden Fleece, and an edging of *Lobelia Paxtoniana*, was exceedingly fine; although I think the best combination, as it was last year, is that of the *Coleus* in the same star shape, filled in with *Centaurea ragnina*. On the right-hand side I noticed

that *Lonicera aureo-reticulata* was excellently managed as a bedding plant. The long shoots were pegged down, and then it threw out short stubby shoots, which, being well cared for, made an excellent and very pretty edging. Another bed near here had *Daphne pontica* purpurea in the centre, filled in with variegated *Pelargonium*. *Tradescantia discolor*, with its leaves purple underneath, showed well; while the two long beds of Mrs. Pollock filled in with the blue *Lithospermum fruticosum* looked well, perhaps feeling a little the unpropitious character of the season; and at the time the *Lithospermum*, not being fully in flower, somewhat detracted from the appearance of the bed. It is a beautiful rock plant, and treated thus it answers uncommonly well. *Pelargonium Luna*, one of Mr. Saltmarsh's productions, looked amazingly well; and I expect to find Mr. Willis's new kinds, *Circlet*, *Beauty of Oulton*, &c., coming in very usefully by-and-by.

With regard to the exotic plants that I have named, there was in one or two places, especially at the left-hand entrance, an appearance of stiffness, which would be perhaps better avoided. They look as if they were placed out of doors to ripen their wood rather than to give effect to the scene. Where they are not used in beds, as the Cannas, I am sure they would look better as single specimens, so as to give as much as possible a natural air to the appearance of the whole landscape. Talking of Cannas, what a pretty and withal strong-growing variety is *C. Annei*; while *Canna limbata*, of which there is on the left-hand side, as you pass on towards the part that has been recently added to the sub-tropical department, a beautiful group, which is left out all the winter, covered over with hay and then thatched. This preserves it from the frost, and the plants are necessarily much stronger. In front of this group it was, if I recollect rightly, that Mr. Gibson has been trying the new *Alternantheras*, and has found *sessilis amena* to be very good and distinct. Here again, too, *Strelitzia angusta* and another species were very fine, and gave a striking appearance to the scene; while the manner in which *Echeveria californica* and others of the same genus were adapted to the edgings of beds was very beautiful. Grant that they were formal and had the appearance of being almost artificial, still they were very novel, and really added very much to the beauty of the beds. *Erythrina crista-galli*, *Marie Belanger*, and ornata were well managed, and would in a short time make a brilliant display; while the rough spiny-looking *Solanums* were as usual prominent features in the garden.

On coming round again towards the place where we entered the garden, there was a very pretty bed with *Centaurea* in the centre, then a star of Mrs. Pollock *Pelargonium*, then blue *Lobelia*, and *Echeveria* edging. Here also I noticed *Pelargonium Wiltshire Lass*, likely to prove a valuable addition to our pink-coloured flowers. There were also two beds of *Cybister* edged with *Golden Harkaway*; but in fact it would be useless to mention all that struck me, or to attempt to give an idea of the exceeding beauty and novelty of the scene. It is one which no one within reach of London who is at all interested in gardening ought to omit seeing; and while I cannot help deploring how the rage for bedding-out is driving out of cultivation those flowers in which the florists of former days took such pride and pleasure, one cannot help seeing that such scenes as these very materially aid the movement: not indeed that I would venture to class Mr. Gibson's artistic efforts with the vulgarisms we too often meet with elsewhere—they are as superior to them as are the masterpieces of a Landseer or a Cope to the signboards of some village Apelles; but people do not see this always—they copy a few of the effects, and then imagine they are copying all. Mr. Gibson is a true artist, and as such all honour is due to him. We saw what he could do at the International Horticultural Exhibition when put into an entirely new track; and Battersea Park, especially the sub-tropical department, is a standing memorial of those rare qualities which are always certain to ensure success—genius in devising, and energy and practical knowledge in executing.—D., Deal.

RAPHANUS CAUDATUS.

I PURCHASED three seeds: one seedling turned out a common Radish, much to my own disappointment and the amusement of my friends, so of that I will say nothing; and another, notwithstanding every pains having been taken with it, was so eaten up by earwigs and the black fly, that it could only be ranked as a failure; the third I planted in a Vine-border, and in spite of the destructive winds in June, it turned out a com-

plete success as regards the number and size of the pods. There could scarcely have been less than 120 on the plant.

On two or three occasions I had a dish gathered, and in order that the vegetable might be fairly tested, I ordered my cook to send it to table without sauce or addition of any kind; the result was that neither my friends nor myself could detect any flavour of any kind—good, bad, or indifferent. Somebody suggested that it was slightly bitter, but this notion was dispelled by the next mouthful. On another occasion we tried it with melted butter, but the result was the same. Permit me, then, to assure your readers that "the flavour between green Peas and Asparagus" is a decided myth.—A PURCHASER AT 3s. 6d. PER SEED, *Malvern Wells*.

LARGE FUCHSIA.

FRIENDS who have lately visited me here (*Valentia*, south of Ireland), encouraged my conceit about the size of my *Fuchsias*. I have just measured one plant of *Riccortoni* which was planted in the year 1854 on a sloping grass bank in my flower garden. It measures just 90 feet in circumference, taken round the extremities of the branches. It would certainly have measured 8 or 10 feet more if it had not been cut away to prevent it from encroaching on a gravel walk. The garden slopes to the sea with an easterly aspect. The plant in question stands perhaps 10 or 12 yards from the edge of the sea bank. Perhaps some of your readers who have large *Fuchsias* will take the trouble to measure and give the dimensions in your paper. It is estimated to stand about 16 or 18 feet high, but of this I cannot be positive. There never has been anything done for this *Fuchsia*, either in the way of protection or of manuring, since the day it was planted.—T. FITZGERALD, *Knight of Kerry*.

LIQUID MANURE FOR FERNS.

"WHO," said a gardener, a few weeks since, "watered these Ferns?" "I did," responded a lad, standing by. "What made you give them manure water? You will kill them; you should never give manure water to Ferns unless you want to destroy them. Their nature is to object to manure in any shape."

I mention this conversation in order to see if it is the verdict of Fern-growers, and to what extent Ferns are injured or benefited by manure, either liquid or solid. It is true that Ferns in their natural state do not seem to obtain anything of the sort, but when we put Ferns in pots we subject them to artificial conditions, and then some degree of artificial treatment must follow. I have an instance in my memory where manure water was used for growing Ferns, the collection comprising, among many others, *Gymnogramma chrysophylla*, *G. sulphurea*, *C. tartarea*, *Pteris cretica albo-lineata*, and most of the stove *Adiantums*. These Ferns were in a stove among a mixed collection of Orchids and stove plants which were watered once a week, in very hot weather twice or thrice, Orchids and all, with manure water. It was not used, as often is the case, so thick as to leave a sediment on the top of every pot, but so clear as to go through the finest rose. Any one going through the collection could not fail to remark what nice healthy plants they were, although they were not large, being grown in small pots. They were allowed to root well to the side of the pots before applying the manure water. Perhaps the small pots had something to do with it.—E. T. W.

[We have repeatedly watered the stronger-growing kinds of Ferns with clear liquid manure, and we thought it improved them in vigour; but we found those not watered with the liquid grew equally strong, and the soil was not so liable to become sour. The Ferns you name, and especially the *Gymnogrammas*, we have watered not only with clear but thick liquid manure, and they did not seem to be any finer than those not so treated. There may be no great harm in a little manure or manure water for Ferns, but we find it tends to render the soil sour either by its destroying the roots or not being absorbed by them. No doubt Ferns like manure, and will hardly exist without it, but it is not animal but vegetable matter which they require, and the latter they have in the decomposing parts of the peat and leaf mould used for potting and planting in, the decomposition of the roots and fibres of surrounding herbage, and the annual decay of their own roots. They flourish in a soil of which the constituents are undergoing the process of decomposition, and grow better in a mode-

ately close atmosphere, humid rather than dry, and such conditions are favourable to the decomposition of vegetable matter. A moist atmosphere is of more importance for the growth of Ferns than any amount of artificial feeding at the root. Orchids do not care about liquid manure, though it may not for a time injure them, but applied to the roots it does as much if not more harm than good. Their chief support is derived from the atmosphere, and an ammoniacal vapour in the house gives evidence of its beneficial influence in the increased vigour imparted to the foliage. The terrestrial kinds, like Ferns, require a soil principally consisting of decaying vegetable matter. We find all plants that will not grow well without peat as a staple of the compost, are not in anywise improved by the application of liquid manure.]

CULTURE OF ROSES IN POTS.

(Continued from page 188.)

If there are no plants in pots, and in a fit condition for forcing when autumn arrives, and if the purchasing of such be objected to, the cultivator should visit some good Rose nursery in September, as he will then be able to select suitable plants for forcing better than earlier in the season, and can also have a good choice from the nursery rows. He should select plants having from four to six strong healthy shoots, without being gross and sappy, and on a stock not more than 6 inches high, if on the Dog Rose or Briar (a stock on which I do not like to have my Roses in pots), and not more than an inch or two in height if on the Manetti. Such plants are far better for forcing than Roses on their own roots, for to succeed with these they must be established in pots sometime previously. Tea and China Roses, however, are an exception, these are in every way better on their own roots; but the Perpetuals cannot be forced with certainty on their own roots, if taken up and potted in autumn, neither is it desirable to treat the China and Tea varieties in that way, as their growth is generally not sufficiently matured.

The plants having been selected and marked, let them remain where they are until the growth is pretty well matured, which may be known by the plants shedding their lower leaves; then take them up very carefully, preserving every fibre, as care or no care in the lifting makes all the difference between success and the reverse. Our nursery friends, however, in the case of Roses, however unmindful they may be in taking up other trees and shrubs, invariably preserve all the roots they can. This is a matter of great consequence to the forcer. The Manetti is the stock for lifting with many twigg roots, which, when you take off their points, push innumerable fibres throughout their length. The Briar, on the other hand, has comparatively few roots, and is somewhat slow in emitting fresh fibres. After taking up, the next important point is to be careful not to keep the roots long exposed to the atmosphere, on account of the drying influence of the wind and sun, as if the roots are long exposed they do not readily emit fresh fibres.

In the generality of seasons the plants will have the wood sufficiently matured to be taken up with safety from the middle to the end of October. The strong roots are shortened with a knife to allow of their going into the pot comfortably, and the twigg roots merely have the ends trimmed off, unless broken, when they are cut back beyond the broken part. Plants such as described will require eight-inch pots, and these being well drained with crocks, an inch of the roughest part of the compost, or a thin layer of moss, should be placed over the drainage. The compost which Perpetuals, or rather the stocks they are worked on like, is rather strong hazel or yellow loam (the top of a pasture not more than 4 inches thick), with one-third well-rotted horse-manure, or cowdung, which is preferable, adding a little river sand. Chop this fine, place the plant in the centre of the pot, and if worked on the Manetti cover the stem entirely, but if on the Briar, it need not be buried more than 2 or 3 inches over the roots. These having been well distributed among the soil, press the latter firmly, but not what may be termed very hard; then give a good watering as well as a sprinkling overhead.

After potting it would be well, and indeed, is imperative for forcing by January, to plunge the pots to three-fourths their depth in sawdust or tan over a hotbed of about 70°, formed of leaves or anything that will generate a gentle heat, which will gradually subside in a fortnight or three weeks. It would be well to draw on the lights and keep the frame close for ten days,

shading from bright sun, and sprinkling overhead morning and evening in days when it is necessary to shade. At the end of ten days draw down the lights in the morning and evening, a little way at first, until by degrees they are entirely removed, pulling them on at night, but not after the middle of November. By that time it is presumed the bed will be cold, or if warm the pots must be gradually withdrawn from it, placed on a cool bottom, and plunged in coal ashes to the rim, within a frame or pit, so that the heavy rains of autumn can be kept off by drawing on the lights, keeping them, however, tilted at the back. Failing a frame or pit wherein to protect the plants from wet, and thus give them a season of rest, it is necessary to plunge the pots in ashes in some sheltered and sunny situation, where they can be protected from heavy rains and intense frost. The Perpetuals do well in this way, but the Tea and China varieties must have a frame. Affording the plants bottom heat secures to the cultivator by the middle of November plants that have made a quantity of fresh rootlets, and are otherwise little, if at all, inferior to those which have been established a year in pots; all they require is a season of rest, and they may safely be forced in six weeks' time, or by the middle of January.

For this early forcing make choice of the strongest of the plants potted in autumn, and those having the best-matured shoots. These should be pruned in mild weather in the middle of December, or, if the weather is severe, do not prune until they are introduced into the house. To do the plants justice they should not be forced the first year until February, especially if they are required to be permanent; but some may be forced by the middle of January, and will flower in March. Those introduced in February will flower in April and May. Before taking them into the house the pots should be freed of moss and washed, and the drainage examined to see that it is efficient. If worms are at work in the pots dislodge them, either by turning out the plant or by stopping up the hole in the pot and deluging the soil with lime water. No plant will thrive in a pot with worms in the soil—they choke the drainage and convert the soil into a soddened mass: hence their expulsion is necessary, and the rectification of the drainage if defective essential.

In pruning cut out any very weak shoots—they seldom do more than require support without affording a return in bloom; and cut away those shoots which overlie or cross each other, always bearing in mind that a sufficient number of strong healthy shoots must be left to form a compact head, and there should not be less than four; for a small plant occupying the same space as a better specimen is a waste of means. Cut in the shoots to two, three, or at most four eyes, according to their strength, the weakest being cut in most and the strongest least.

Afford the plants a situation near the glass in a well-ventilated structure; the temperature at the time of introducing the plants may range from 45° to 50° from fire heat, and they will be all the better of a mild bottom heat of 65° or 70°, as it will tend to make the buds break evenly and vigorously. Syringe the plants morning and evening with water of the same temperature as the house, and shut it up early in the afternoon.

When the shoots are an inch long increase the temperature to 55°, shutting up early in the afternoon, still maintaining a moist atmosphere, and admitting air freely on all favourable occasions, as if kept close and moist they become weak and drawn. By the time the flower-buds show the temperature may be 60°, admitting air plentifully, at the same time avoiding cold currents; and when the buds show colour lower the temperature 5°, affording light, air, and room, to give the stems and leaves a stiffness which they would not acquire in a warmer, closer, and more humid atmosphere. The syringing should then be discontinued, and as they come into bloom remove the plants to a house with a temperature of 50°, where, if shaded from bright sun, they will continue in flower a long time.

In watering be careful not to overdo it, and do not keep the soil more than moist until they have fairly broken, when more liberal supplies may be afforded, and when the buds show every alternate watering may be of liquid manure. From that time until the petals fall the waterings should be copious, but under no circumstances such as to reduce the soil to a saturated condition. When the blooming is past continue to keep the soil healthfully moist, but to not water so copiously as when the head demands a greater supply of nutriment.

Green fly is the great pest of forced Roses. To counteract it the syringe should be freely used, and the house filled with tobacco smoke on the first appearance of the pest, taking care to have the foliage of the plants dry. The insect must not be

allowed to gain an ascendancy before seeking to destroy it, for it may then have done irreparable mischief. It should be destroyed when first seen. The next enemy to the Rose-bud is a small maggot, which folds itself up in the leaves and eats into the very centre of the flower-buds when little larger than a pea. The plants should be daily examined, and when the leaves are folded up, or two are sticking together, between them will be found a small black-headed maggot.

Mildew sometimes attacks the leaves and shoots. It may be destroyed by frequent syringings and dusting with flowers of sulphur.

After the blooming is over the plants should not be suddenly exposed or turned out-doors, but be gradually hardened off, and have the protection of a frame or pit until danger from frost is past. When hardened off the most promising may be shifted from 8 into 11-inch pots; and the weakest, or those in 6-inch pots, may be transferred into 8-inch pots. Give them the benefit of a close frame for a few days, then gradually harden off, and plunge the pots to the rim in coal ashes in a sheltered situation, yet open to the sun, affording them plenty of room. The material in which they are plunged should be as well drained as the pots, for stagnant water lodging about the plants will cause the leaves to become yellow and fall, and immature shoots will be the result. The pots should be frequently lifted to prevent the plants rooting through; and if worms find their way in they are to be driven out by watering with clear lime water. Remove all suckers as they appear, and throughout the summer the soil should be liberally supplied with water, keeping it in a healthy growing condition, extremes of dryness and wetness being avoided. Any strong gross shoots may be stopped at the eighth leaf, and this up to the end of August, but in the majority of instances the removal of the flower-buds as they show will be sufficient stopping; if, however, plants for a late bloom are desired, then those earliest forced should, in a fortnight or three weeks after potting, be cut in to six eyes if strong, to three or four if moderately strong, or to two if weak. Such plants, having the surface of the pots covered with rotten manure, and being well but not excessively supplied with water, and frequently syringed overhead, will produce a fine crop of flowers in autumn. During their period of bloom keep them in a cool, light, airy house, and there continue them until the leaves begin to fall; then remove them to a frame or sheltered and dry situation until February, when, if the drainage be put in order and the surface soil replaced, they will be eligible for gentle forcing again. These plants, it is presumed, were the earliest forced, consequently potted whilst under glass, and pruned as above described after a few days' exposure in the open air, which will be in June. This is not a good practice, as it weakens the plants, and interferes with the forcing stock. The only kinds eligible are the Perpetuals.

Those not forced until February, will not have shed their flowers until May is far advanced. They should not be potted until placed out of doors, and water having been withheld from them for a fortnight to the extent of causing them to rest without actually destroying them, but sufficiently to cause the lower leaves to fall, they may be pruned in July. Liberally treated with copious syringings, and water supplied alternately with liquid manure, they will grow strongly and afford a fine bloom late in autumn. If a very late bloom be desired, then any buds that may form after pinching all out up to the middle of August, should be allowed to remain. When frosts occur the plants should have the protection of an airy greenhouse, and they must be wintered in a frame after blooming.

Without a large stock of plants it is absolutely destructive to the forcing stock to take a second crop of flowers; it is better to grow a fresh stock for forcing when the original forced stock is retained for a late bloom, and plants in the open ground supply Roses sufficiently late in most localities.

The plants not being cut back, but only their irregular growths shortened, will merely require to have the drainage examined, the surface soil removed, and the application of a top-dressing of loam and rotten manure in equal parts, observing in looking to the drainage to remove worms. This top-dressing is not to be given until most of the leaves have fallen, and the shoots are mature. The best plants may then be pruned, and placed in a cool structure to remain until wanted for forcing. These being the earliest matured will best answer for early forcing, which may commence about the middle of December. The others as they shed their foliage should be top-dressed, and placed in a cold frame, continuing to prune a certain number every fortnight after the first batch, and to in-

troduce them into heat after they have been pruned that length of time. It is better to prune the plants and keep them rather dry for a fortnight or three weeks prior to forcing, than to place them in the house unpruned and with the soil wet. A sufficient stock should be kept to make up for defective plants, which, however careful and painstaking the cultivator may be, will certainly occur.

If the plants are on the Briar, or the potting has been delayed, it should be performed early in September, doing it very carefully, removing as much old soil as possible, and working fresh in between the roots. It is, however, much better to pot in the end of May, or early in June, only if the weather be hot and dry, Roses on the Briar are liable to suffer, but this may be obviated by shading for a few days.

The third year it may not be necessary to repot (but if large plants are desired the most promising may be shifted into a larger size of pot), it being only necessary to give two or three top-dressings of manure during the summer, and to top-dress with soil in autumn before pruning. The drainage should be looked to at the same time. If the plants are as large as you wish, they may be turned out of their pots, have the greater part of the soil shaken away, the roots cut in, and be potted in the same pots. This is a matter of necessity very often, as the roots go to the bottom of the pots, leaving the top soil unoccupied: hence to raise the plants and pot with fresh soil is a matter of moment, and the plants generally do well afterwards. The removal of the soil, and pruning the roots, should only be moderate, confined as regards the latter operation to the large roots, the fibres having merely the tops removed.

In this way Roses may be grown and forced in the same pots for years, and the size of the plants may be increased by increasing the size of the pots; but some will fail, others become so weak as not to be worth growing; therefore, a supply must be drawn from the reserve, which should not be to collect when wanted.—G. ABBEY.

(To be continued.)

AMONG THE SCOTTISH BRAES, LOCHS, AND MOUNTAINS.—No 4.

THE *Saponaria calabrica* is much cultivated in the gardens on the banks of the Frith of Clyde, and I never saw it so brightly and densely blooming. It is employed both as an edging, and as a bedding plant. In the centre of a small lawn, one bed, oval in shape, and the soil rising in the form of a rounded ridge throughout its length, is planted along the apex of the ridge, and filling one-third of the width of the bed, with *Perilla nankinensis*; all round the *Perilla*, and, consequently, filling the other two-thirds of the bed is *Saponaria calabrica*. The *Perilla* is stopped so as not to exceed the *Saponaria* in height. The bed is decidedly effective.

Continuing my walk I arrived at the nursery of Mr. Robert Purvis, close to Dunoon, and there was the *Saponaria* grown as an edging. He said that it blooms freely and very enduringly, the light, siliceous soil, resting on slate, and the moist climate suit its temperament. I wish that that climate were more suited to mine; for about a fortnight I have scarcely been out except under a mackintosh and umbrella. No wonder so many naked feet, legs, and heads are seen; they do not decay as shoes, stockings, and bonnets do from never-ceasing excess of wet.

There are three other ornaments of our gardens which are here strikingly vigorous—*Pentstemons*, *Phloxes*, and *Roses*. Their flowers are large and brilliantly coloured, betokening health, and the leaves of the *Roses* very rarely exhibit brown blotches, or other symptoms of deficient strength. This recording of good health among plants reminds me that there is no disease this year among the Potatoes hereabouts.

Mr. Purvis's nursery is very unpretending, aiming at little more than the supply of bouquets to the excursionists from Glasgow, and the supply of Gooseberries, Raspberries, Strawberries, and vegetables to the Dunoon residents, yet there is one of his practices which more distinguished establishments might adopt with great satisfaction to their visitors, and great saving of questioning to their men. All the plants have tallies affixed by them, on which their names are legibly written; and this naming is not confined to species, but is extended to all the varieties.

This nursery occupies no more than about seven acres, and the fact reminded me that the nursery commenced by Burns's father was of similar extent. It is a positive satisfaction to

know that the poet was the son of a gardener, and I wished as I looked upon the cottage where he was born, that it had the seven acres still preserved to it, and that Ayrshire Roses had been around it instead of the insignia of a beer-house, to which it is degraded. It is now about to be sold. Will the Scottish community subscribe to purchase and preserve it as a national property, as has been done in England for Shakespeare's house?

Burns was not only the son of a gardener, but himself delighted in the cultivation of the soil. Allan Cunningham says—"Burns delighted in feats of rural activity and skill; he loved to draw the straightest furrow on his fields; to sow the largest quantity of seed corn of any farmer in the Dale in a day; mow the most Rye Grass and Clover in ten hours of exertion; and stook to the greatest number of reapers. In this he sometimes met with his match. After a hard strife on the harvest field with a fellow husbandman, in which the poet was equalled, 'Robert,' said his rival, 'I'm no sae far behind this time, I'm thinking.' 'John,' replied Burns in a whisper, 'you're behind in something yet: I made a song while I was stooking!' I have heard my father say that Burns had the handsomest cast of the hand in sowing corn he ever saw on a furrowed field."

It is reasonable to expect as gardeners are one of the three staple exports of Scotland, that there the *régime* of the craft should be more politic than in England. One evidence of this is the existence of many Gardeners' Friendly Societies. The proceedings of one of them was thus noticed in the *Glasgow Herald*, of August 14th:—

"FREE GARDENERS' PROCESSION.—The annual procession of the Baillieston Adelphi Lodge of Free Gardeners took place on Friday last. The brethren having met at two o'clock in the Lodge-room, formed themselves into marching order, and, headed by the Drumpeller band, they promenade the principal streets of the village; and thereafter, by the liberality of Messrs. John Maxwell, of Baillieston, and Charles Robertson, of Bredisholm, they proceeded through the beautiful grounds of these gentlemen respectively. There was a splendid turnout of the craft, and the proceedings were brought to a close by a supper and ball in the Academy in the evening. The brethren were highly delighted with the day's proceedings. The Thistle Lodge, Coatbridge, was well represented on the occasion."—G.

MITCHELL'S NURSERIES, PILTDOWN, MARESFIELD.

THE distinction Mr. Mitchell has acquired as a successful grower and exhibitor of Roses is sufficient reason for introducing a notice of his nurseries here, and for assuring the reader that a visit to Piltown during the Rose season is especially interesting, and not to the rosarian alone, but to all who love and admire horticulture and feel an interest in seeing any of the great repositories of the beautiful plants with which the garden can now be adorned. Although it is with the Rose that Mr. Mitchell's name is most familiarly associated in the minds of the multitudes of admiring spectators who attend the Crystal Palace, the metropolitan, and the local flower shows of Sussex, Surrey, and Kent, it is by no means the only speciality of his well-managed grounds.

The route to Piltown by railway from Redhill is at present somewhat circuitous, it being necessary to go first to Lewes, and from thence to Uckfield; but it runs through so fine a district, that with the bright sunshine falling upon the charming woodlands and golden harvest fields, as it did on the morning of my trip, I could not regret the journey required half an hour more for its accomplishment than it would otherwise have done if the route had been more direct. When the railway system now in the course of construction shall have been completed, Piltown will have the advantage of more direct communication with the metropolis.

On quitting the railway station, from which Piltown is distant about two miles, the visitor passes through the rural but modern-built village of Uckfield, and if he (or she) prefer walking—decidedly the best plan—the pathway leading through the fields will amply repay the trouble; for a more quiet, and at the same more diversified route can scarcely be desired. Arable fields, meadows, pastures, and woodlands in which the glorious old British Oak predominates, succeed each other in gentle slopes or level ground; and if the visitor has a knowledge of native plants, many an interesting specimen or wild flower—some familiar favourites met with everywhere, others

less so—will occur to him by the wayside. On reaching Piltown the view of the South Downs gives a grand outline to the landscape, and the free fresh air and rich soil will at once convince him that he has arrived at a spot where horticulture should be, and is, practised with skill and success.

On arriving at the nurseries, I, and a friend who accompanied me, were fortunate in finding Mr. Mitchell in the grounds, who received us with genuine courtesy and hearty welcome. The nurseries are about 40 acres in extent; although some portions are level, on the whole they incline gently towards the south and south-east; they are situated on both sides of the road passing over the downs from Uckfield. The soil is a good loam, hence very suitable for the production of those grand flowers so justly admired at the Crystal Palace and National Rose Shows, and elsewhere.

In front of the dwelling-house are large beds of gay flowers, chiefly the well-known *Calceolaria Aurea floribunda*, which grows here remarkably well, and some pretty bedding *Pelargoniums*, several of which are seedlings of Mr. Mitchell's own raising. The beds are large, and as formality is not sought for, a plant is used as an edging, which is not often seen applied to that purpose, but for which it is well adapted, this is the Carpet Juniper (*Juniperus prostrata* or *repens*). Where the bedding system is extensively carried out, this Juniper might be used with advantage for a permanent edging where Box would be too formal, or next to a gravel road, as it can easily be kept within bounds. I have seen *Cotoneaster microphylla* similarly used, and with good effect; the Juniper is the more cheerful-looking of the two at this time of the year.

Within the entrance gate just below these beds, and on each side of the gravel paths leading to the house and to the various quarters, are many valuable specimens of the most esteemed Conifers and evergreen shrubs. Among them are *Thuja gigantea*, *Cupressus Lawsoniana*, *Pinus insignis*, *P. muricata*, *Wellingtonia gigantea*, most of them from 10 to 15 feet high; also, some thriving plants of the recently-introduced *Picea* (*Abies*) *Lowii*, a very promising addition to this class of trees. Continuing onwards we pass down a broad gravel central walk edged with Box. The arrangement of plants on both sides of this walk is excellent; inside the Box a row of scarlet *Pelargoniums* planted alternately with *Calceolaria Aurea floribunda*, next a row of compact-growing Conifers, in fine condition, chiefly *Thuja aurea* and *Juniperus ericoides*, relieved at intervals by the pretty *Veronica Andersonii*, and *Hydrangeas* in full bloom. *H. japonica* is blue, and true to colour, while *H. hortensis* is pink. Attention has been recently called to these fine garden shrubs in an excellent article from the pen of one of the most practical contributors to the Journal, in which the writer has justly pointed out their good qualities. Besides these are now and then the variegated Red Cedar (*Juniperus virginiana*), and *Fabiana imbricata*, a pretty shrub, and the complaints which have been made against it would be obviated by a little judicious pruning. The contrast of foliage and habit in the *Thuja aurea* and *Juniperus ericoides* is very pleasing, and in conjunction with the above-named shrubs planted in quantity, forms one of those remarkable combinations which can only be seen in large nurseries. Behind these are other Conifers taller and larger than those in the front row, also relieved at intervals by evergreen and deciduous shrubs. These were chiefly *Thujopsis borealis*, *Juniperus chinensis*, *Cupressus Lawsoniana*, *Picea* (*Abies*) *Nordmanniana*, *P. pinsapo*, *P. cephalonica*, *Cedrus deodara*, *Cryptomeria japonica*, with *Arbutus* of various kinds, *Deutzia scabra*, *Spiraea Lindleyana*, &c. In this row *Abies Brunoniana* is very attractive from its distinct habit and foliage, and deserving of especial notice, being well suited for single specimens either for lawns or parks. All the Conifers above noticed are well grown and in perfect shape, and must prove very desirable for purchasers who require immediate effect; indeed, the whole stock of them, which is very extensive, and occupying altogether in the various quarters several acres, is uniformly good. The pure bracing air of Piltown is so highly conducive to the growth of Conifers, that among those to be presently noticed are some of the finest specimens known in England.

After inspecting these we turn to the right into the different quarters assigned to the various kinds of nursery stock. The means adopted for the protection of these quarters is one of the most conspicuous features of the nursery, and which the strong winds occasionally blowing across the Channel from the south-west render necessary. The quarters are fenced in by hedges from 10 to 15 feet high, formed of Laurel, Holly, Yew, and the American Arbor Vite, and notwithstanding the great extent of

these hedges, not a break, gap, or irregularity of growth is to be seen in any part of them. Being evergreen they also afford protection in winter, and judging from the fine appearance of the plants within the enclosures, they are certainly one of the most efficient means that could be provided. How much more garden-like are these green hedges than if brick walls had been substituted, and given the place the aspect of a prison! By being kept clipped they form an effectual barrier against the strongest gales, which a brick wall can scarcely be said to do at all times. The subject of good evergreen hedges *versus* brick or stone walls, has been before discussed in these pages, and it is an important one, too, for in many situations they would have an advantage over walls both in utility and appearance, and the advantage, too, is so evident, that it is surprising they are not more generally adopted. A wall, however, can be built in a few weeks, or even days, but it requires several years to perfect the kind of hedges such as are planted at Piltown.

The first compartment we entered was nearly filled with fruit trees in various forms—as wall-trained, espalier, pyramidal, &c. The fine condition of the Peach trees, and pyramidal Pear trees, is worthy of notice. The following kinds of Pears for pyramidal training are strongly recommended by Mr. Mitchell—Easter Beurré, Beurré Diel, Beurré de Rance, Prince Albert, and Joséphine de Malines.

Then we come to the quarters for Roses, altogether occupying ten acres, and containing upwards of 85,000 plants. To give names would only be repeating lists that have often appeared in these columns. To many rosarians it would seem that Mr. Mitchell keeps too many varieties, but when it is seen how well they grow and bloom here, it is a difficult matter to point out sufficient reasons for throwing some of them out. There are two kinds at Piltown more prominent than others, and which must not be passed over, not only for their own peculiar merits, but also on account of the great extent to which they are propagated. These are—Triomphe de Rennes, and Maréchal Niel, and although the Maréchal is justly esteemed as the greatest acquisition that has of late been made to our yellow Roses, Triomphe de Rennes is still, as Mr. Mitchell says, a wonderful Rose; no other of its class, excepting Gloire de Dijon, which may without much departure from the truth be considered as closely allied, combines such qualities as hardiness, beauty of form, delicacy of colouring, substance in petal, and free blooming, added to vigour of growth when on soils and stocks suited to it. The blooms of it at the time of my visit were the best in the nursery; still it is but fair to state that the bloom of the other kinds was not abundant on account of the great number of flowers that had been cut during the previous week for local shows. One word on the propagation. There are about 60,000 plants on the Briar, and 25,000 on the Manetti stock, which are all budded quite close to the ground. Not one of the plants is grafted or otherwise propagated under glass; they have, therefore, at least one winter to pass through out of doors before being sent out.

After a lengthened inspection of these quarters we retraced our steps to the house, and rested a few minutes before looking at the specimen Conifers near the entrance gate on the other side of the road. The most conspicuous of these is the grand *Araucaria imbricata*. A more perfect tree of its kind can scarcely be imagined, and I suppose that it ranks the first, or very nearly so, in England. The dimensions of these Conifers are as follow:—*Araucaria imbricata*—height, 45 feet; trunk near the ground, 6 feet 6 inches; at 4 feet high, 4 feet; circumference of branches (spread), 63 feet. The branches are equidistant throughout, and there is not an imperfect growth to be seen in any part of the tree. It was planted about twenty-five years ago. *Picea nobilis*—height, 24 feet; trunk near the ground 3 feet; at 4 feet above, 23 inches; spread of branches, 40 feet in circumference; planted fourteen years ago. *Thuja aurea*—height, 5 feet; circumference of plant, 17 feet: a very beautiful specimen, and perfect. *Thuja gigantea*—height, 12 feet; spread of branches, 21 feet in circumference. *Thuja sibirica*—height, 11 feet; spread of branches, 22 feet in circumference: a peculiar but very handsome specimen.

Besides the above-named *Araucaria*, there is another growing beside it but little inferior in dimensions and symmetry; and from them for a considerable distance is a noble avenue of these interesting trees, most of them attaining a height of from 15 to 20 feet. Against the wall of the offices in this portion of the nursery the beautiful *Clematis Jackmanni* was in bloom, and several plants of *Lilium auratum*. This fine *Lilium* is found to do exceedingly well out of doors; its stem is stronger, higher, and more robust, and even produces more flowers than

it generally does under pot culture. The time is not distant when we shall meet with it in every garden where improvement and progress are studied. The whole of these extensive nurseries are in excellent order.—ADELPHUS H. KENT.

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

RHODODENDRON FORTUNEI (Mr. Fortune's Rhododendron).—*Nat. ord.*, Ericaceae. *Linn.*, Pentandria Monogynia. Native of Chekiang, China, on mountains 8000 feet high. Flowers pale rose colour, and fragrant.—(*Bot. Mag.*, t. 5596.)

ILEX LATIFOLIA (Broad-leaved Japanese Holly).—*Nat. ord.*, Iliciaceae. *Linn.*, Tetrandria Monogynia. Native of Japan. A noble evergreen.—(*Ibid.*, t. 5597.)

HUNTLEYA CERINA (Waxy Huntleya).—*Nat. ord.*, Orchidaceae. *Linn.*, Gynandria Monandria. Native of Veragua, on the volcano of Chiriqui, at an elevation of 8000 feet. Flowers straw colour, lip yellow, with crimson edging at its base.—(*Ibid.*, t. 5598.)

NIEREMBERGIA VEITCHII (Mr. Veitch's Nierembergia).—*Nat. ord.*, Solanaceae. *Linn.*, Pentandria Digynia. Imported by Messrs. Veitch from Tucuman, South America. Flowers pale lilac, with veins of the same colour but darker.—(*Ibid.*, t. 5599.)

KEMPFERIA ROSCERANA (Mr. Roscoe's Kempferia).—*Nat. ord.*, Scitamineae. *Linn.*, Monandria Monogynia. Native of Burmah. Leaves only two, dark rifle green, with two zones of pale green. Flowers white.—(*Ibid.*, t. 5600.)

IVY-LEAVED PELARGONIUM.—*Silver Gem*, leaves green, broadly margined with white. Flowers pale pink.—(*Floral Magazine*, pl. 305.)

HYBRID PERPETUAL ROSE.—*Mrs. Ward*, raised by Mr. Ward, Ipswich. A cross between Jules Margottin and Comtesse Océile de Chabillant. Petals of great substance, deep rose colour.—(*Ibid.*, pl. 306.)

URCEOLINA PENDULA.—An Amaryllid long since introduced.—(*Ibid.*, pl. 307.)

ORCHIS MACULATA SUPERBA.—Found wild in Ayrshire. Introduced by Messrs. Osborn, Fulham.—(*Ibid.*, pl. 308.)

PRIMULA SINENSIS FILICIFOLIA RUBRA PLENA (Double Red Fern-leaved Chinese Primrose).—"Produced at one of the meetings at South Kensington by Mr. Toombs, gardener to W. S. Roots, Esq., of Kingston-on-Thames. It is a remarkably compact-growing plant, with full double flowers of a deep rosy tint, paler at the edges, and very justly received a first-class certificate. As the first double-flowered form of the Fern-leaved race, it must be regarded as a most important addition to the already extensive group of Chinese Primroses."—(*Florist and Pomologist*, v. 185.)

LOBELIA SNOWFLAKE.

THIS has proved a complete failure with me, and in my opinion is of no use as a bedding plant, having no good quality whatever to recommend it. The habit is as bad as it can possibly be, and the colour much about the same as the habit.

I very fortunately did not think of giving it a place in the flower garden this season, but planted it in a very favourable place in the kitchen garden, thoroughly preparing the bed to give the plant every chance, but it was of no use; death seemed the only end appointed for *Lobelia Snowflake*.—JAMES STEWART, Nuneham Park.

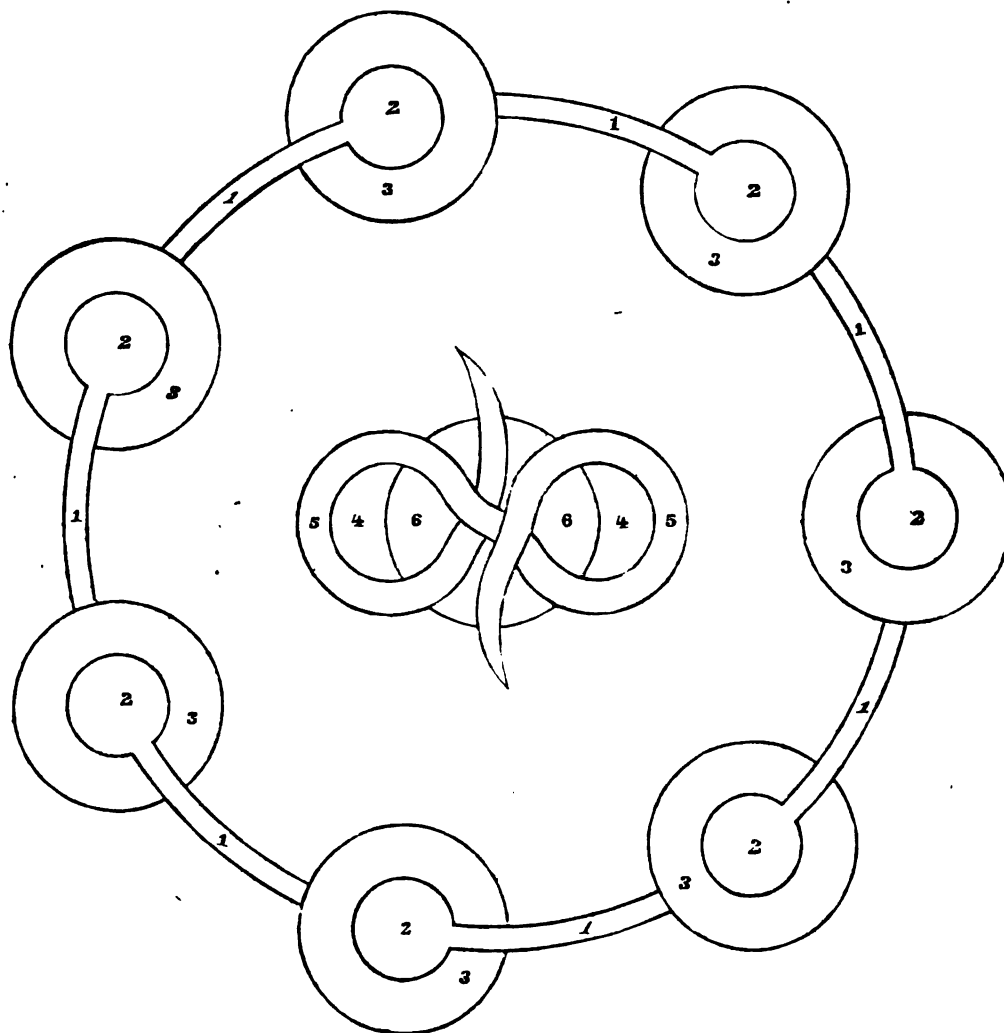
THE INTRODUCTION OF THE VERBENA.—The following notes in relation to the introduction of the Verbena into this country, are from Mr. Amory Edwards, of Elizabeth, N.J. It will interest the admirers of this now very common and popular plant to know something of its early history. Verbenas are natives of Buenos Ayres, and were first noticed by John Tweedie, who was collecting plants for the conservatories of the Earl of Derby, and a firm in London. In 1834 and 1835, I frequently accompanied Mr. Tweedie, a Scotchman, and a hearty lover of flowers, who was then about sixty years of age, in excursions around Buenos Ayres, and as I was about sailing for New York, he gave me a plant of the *Verbena Tweediana* [now called *phlogiflora*.—Ed.] (red) and a fragrant white one, together with some seed of the scarlet *Petunia*. These plants I gave in Sept. 1835, to the late Mr. T. Hogg, who then had a garden near the House

of Refuge, now Madison Square, and he told me that they were the first Verbenas ever in this country, and the first scarlet Petunia. A white Petunia had been received before. Grant Thorburn, in 1837, received a plant of Verbena Tweediana

from London, where he told me that it cost him two guineas. Most of the stock now in the gardens in the United States is from these plants; originally there were but two colours, one of each—red and white.—(*American Agriculturist*.)

ORIGINAL PLANS FOR FLOWER GARDENS.

THE HOOP AND RING PATTERN.



THE above pattern is most effective when viewed from a slight elevation, as from a terrace walk or window. It will be seen that the hoop, 1, is supposed to run through each small bed as through a ring. The hoop itself is planted entirely with *Cerastium Biebersteinii*; the centre of the beds 2, 2, with *Centaurea*; a cut-leaved kind, such as *C. ragusina*, matches best with the *Cerastium*. The circles, marked 3, are planted with a variety of colours; 4 with *Centaurea*, 5 with *Bijou Geranium*, 6 with *Coleus Verschaffeltii*. — WILLIAM EARLEY, *Digmoell*.

[Mr. Earley thus describes his other plan, No. 2:—"It consists of apparent divisions, halfmoon-shaped, each so crossing the other alternately as to admit of the perfect blending of various colours, without, however, destroying the general composition of any division. The centre is planted with some showy high standard plant with, at its base, a dwarf plant with coloured foliage quite distinct from any surrounding it, which aids in giving a good effect to the whole."

All flower gardens look best when looked at from a height.

So viewed we have no doubt that the hoop and ring pattern, with its knot in the centre and lawn all round, will look well. The only objection is that there is neither inlet nor outlet to the centre, but to get in you must pass over the hoop 1; but as it seems narrow and all *Cerastium*, that might not be a great drawback. The design is pretty, and gives the idea of ease and room. The above objection is more conspicuous in Mr. Earley's No. 2, where the centre is a circle with a wide space round it, and seven crescents or quarter-moons forming the chain around it, with the points or horns of the crescents crossing each other, thus showing fourteen sharp points on the inside of the chain. As these crescents are much wider than the hoop and ring pattern, there would not be the same ease in jumping over them to reach the lawn round the central clump. Has our correspondent any particular reason for seven circles in the plan above figured, and seven quarter-moons in No. 2? because some of us would balance them more easily in pairs. We like the design figured the better of the two, and that much.]

CULTURE OF LILIUM AURATUM.

In reply to the inquiry about *Lilium auratum*, I report the bulb every year in spring, being very careful of all growing roots. As regards the compost, I use good fibrous loam and peat in equal parts, with a good proportion of sand and leaf mould, after which I add cow or sheep-dung, dried and beaten up small, in the proportion of 1 oz. to every 2 lbs. of the whole of the other soil. After potting, the soil should be kept moderately moist until the roots are thoroughly in action and the young stems are 2 or 3 inches high, when a liberal supply may be afforded. I never give manure water until the buds have been formed, and it is gradually withheld as the flowers expand. After flowering I give a moderate greenhouse temperature, and reduce the quantity of water slowly and carefully, thereby securing a very gradual decay of the leaves and stem, which is of much advantage to the bulb. As soon as all signs of life have departed from the stem I keep the bulb in the coolest greenhouse, being careful not to allow the soil to become too dry, which may be guarded against by setting the pot on a damp bottom, so as to keep the roots slightly in action. It is one of the greatest mistakes possible to allow these bulbs to be entirely dried off during the winter.—ROBERT BULLEN, Gardener to A. Turner, Esq., Bow Bridge, Leicester.

NOTES AND GLEANINGS.

On Saturday last, at the meeting of the Pomological Congress of France, which is now being held at Melun, the large gold medal, presented by the town of Melun, was awarded to the Royal Horticultural Society of London for a collection of Grapes and Pears. Some of the Grapes, as Canon Hall Muscat and Muscat of Alexandria, which were very fine, excited great admiration, and formed the chief attraction of the Show.

It would be well if amateurs delighting in any scientific pursuit would follow the example of the microscopists in and about London. They have formed a club, the annual subscription to which is no more than 10s. annually, with no entrance fee, and they meet one evening in every month "to exchange ideas without that diffidence and constraint which an amateur usually feels when discussing scientific subjects in the presence of professional men." It is a great success, and we wish we could obtain for our pages the notes read at their meetings on such subjects as these:—"Five New Forms of Microscopical Fungi," "How to Arrange and Keep a Cabinet," and "The Pigment Cells of Plants." About two hundred members belong to the Association, Dr. Lankester is its President, and it has assumed the name of the "Quekett Microscopical Club." Why it is named the "Quekett" will be a mystery to most of our readers, but not to those who knew the admirable man whom it commemorates.

At the meeting of the Irish Royal Horticultural Society on the 8th inst. the attention of the members was directed to a well-flowered specimen of one of the ground Orchids of Southern Africa, among which are *Disa grandiflora* and *D. cornuta*. The species then exhibited, *Satyrion roseum*, lacks the flamingo-like brilliancy of the *Disa*, its flowers being pure white, except a faint tinge of rose on the outer portion of the helmet. The two radical leaves are large, subrotund, and of great substance. The stem rises some 2½ or 3 feet high, the lower portion having from six to seven alternate, spathe-like, sheathing leaves, which gradually diminish in size as they ascend, until they pass into the large floral bracts. The flowers are from thirty to forty in number. They are especially remarkable for the double spur that proceeds from each. Unless on close examination, this curious development would escape notice, as the prongs are very closely pressed to the sides of the ovary, extending not only its entire length, but down, and adhering closely to a considerable portion of the stem. The cultivation of Cape Orchids has long been a stumblingblock with growers, but nothing could be more successful than the present instance. It was considered the first time of its being in flower in this country, but we suspect it is identical with *Satyrion carneum*, figured in the "Botanical Magazine" as long since as 1812.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Ground becoming vacant should be trenched up as roughly as possible, manure being applied if necessary. Gravel walks must come in now and then for a share of attention

in weeding, rolling, &c. Cabbage, trench and manure well for the winter crop in due time, and plant out some more strong plants of the early kinds for late Coleworts. Endive, plant out more for the last batch, using high slopes, which may have covers, or hoops and mats, when severe weather arrives. Cauliflowers, young seedlings must not be allowed to stand too thickly in the seed-bed; the thinnings may be pricked out thinly, and they will make good stocky plants. Lettuce, plant some strong Bath Cos and Hardy Green on sloping banks, to stand through the winter. These banks may be rather small, not more than 4 feet through at the base, and steep; plant both sides of the bank, and it will produce a succession. Spinach, the winter sort to be thinned to about 6 inches apart, and the hoe worked through it. Turnips, thin in due time, and pass the hoe through them.

FRUIT GARDEN.

Any of the Peach or Nectarine trees which are observed to be growing too freely should be gone over, stopping all the stronger shoots, and those which were treated in that way a few weeks ago should also be looked over again, stopping a further portion of the shoots, if this appears necessary, to prevent the formation of gross strong wood. Pear, and indeed all trained fruit trees, should also be gone over, removing all superfluous wood so as to expose the trees to sun and air as fully as possible, which will be of service in maturing the fruit spurs and bearing wood before winter. Where mulching has been used for Peach and Nectarine trees, this should be removed at once, for the fruit is seldom well flavoured if the roots are excluded from the action of the sun and air during the period of ripening. See that the Strawberries in pots for forcing are well cared for, placing them in an open, sunny situation, where they will have all the light possible, and do not allow them to suffer for want of moisture at the root.

FLOWER GARDEN.

As the season is now considerably advanced, it cannot be too often repeated that the propagation of all the more important bedding-out plants should be pushed on as quickly as possible. Late-struck cuttings are difficult to keep through the winter in consequence of their having an insufficient amount of roots and badly-matured wood. Let Scarlet and other Pelargoniums struck in the open ground be taken up and potted immediately they have made roots; they will require a close frame for a week or two, when they should be placed on a dry bottom in a southern exposure to harden them for the winter. For the same purpose Verbenas, Petunias, &c., struck in pans and intended to be kept in them through the winter, should be placed in a similar situation, at the same time stopping the points of the shoots. It should, in fact, be a point to keep them as hardy as possible by fully exposing them until they are placed in their winter quarters. Mignonette, for winter and spring flowering, may yet be sown. Phloxes and other herbaceous plants will now be making a tolerably good show, and should have care bestowed on them. Let the borders be cleaned and neatly raked over, filling up vacant places with spare Chrysanthemums, spring-struck Pansies, or spring-flowering bulbs. That the present is a favourable time for transplanting large-sized evergreen shrubs and trees is seldom disputed, nevertheless, it more or less annually happens that a great amount of this kind of work is put off until so late that the plants have no chance of pushing a few fresh roots to enable them to resist the cold, drying winds of March, and there are, doubtless, many of our readers purposing to shift large evergreen shrubs and trees this season, who have as yet hardly thought of commencing. We would, however, strongly advise all such to begin as soon as circumstances will permit, and they will find that plants shifted during this month will require but little attention in the way of watering next spring and summer, as compared with others transplanted in winter and spring. Also let ground intended to be planted with young plants from the nursery be turned up as soon as possible, especially in the case of strong adhesive soils, which are quite unfit for planting until they have been some considerable time exposed to the mellowing influence of the sun and air. We may soon have indications of the near approach of frosty nights, and it will be well to be prepared with something with which to cover any of the beds liable to be injured by slight frost, such as Heliotropes, &c. *Wistaria sinensis*, Jasmines, and the Virginian Creeper may be propagated by cuttings; China Roses, Heartsease, or the tree Violet, may also be increased at this time.

GREENHOUSE AND CONSERVATORY.

Large conservatory plants which have been retained within

the house should be carefully looked over before the general collection is introduced, and thoroughly cleansed by hand-washing whenever the scale is detected. Orange trees particularly require this attention. Whatever pruning or training is required by climbing plants, the same opportunity of completing it should be used. Stands should be cleaned, and all necessary repairs at once effected. As the plants from without are brought in let the pots be carefully cleaned of moss and all impurities, the drainage looked to, and each plant scrupulously freed from insects, dead leaves, and all unnecessary ligatures. Pay attention now to Chrysanthemums. They must not be stopped later than this to have fine heads of bloom. A little liquid manure will assist them; let it be applied twice a-week if your desire is fine plants with large blooms. Dwarf plants of these may be secured by layering the tips of the stems now into small pots; they will soon root, and may then be cut off and shifted if necessary into large pots. Some prefer raising them from cuttings, but either plan will do. They are sometimes put three or four in a pot. The sooner potting bulbs for forcing is accomplished the better. The chief business is to have the root well established before growth commences, otherwise it is impossible to produce an early and strong bloom. Most of the failures we meet with are chargeable to the omission of this most important point, and the fault has not unfrequently been charged most unjustly on the bulbs. Use a soil composed principally of a mellow loam, with the addition of old cowdung and leaf soil, and a sprinkling of sharp sand. Secure good drainage. Hyacinths should stand about one-third out of the soil, Tulips should be just covered, and the Crocuses may be buried about an inch, taking care that the soil is in a mellow state—neither wet nor dry. Shake the pots slightly, in order to prevent the bulbs settling too low, but do not by any means press the soil. They succeed by far the best in a cold frame, and it is most desirable that they should receive no moisture beyond what the soil contains until the pots are somewhat filled with roots. Those who have not the convenience of a frame may plunge them in cinder ashes in some sheltered spot, taking care to raise them above the ground level for fear of water lodging. Take care that there is a free passage for the rain, and let them be covered with 6 inches of old tan, sawdust if not too new, or ashes. For growing Hyacinths in glasses the bulbs, after being kept for a few days in damp sand, should be placed in their water-glasses. At first the water should barely touch the base of the bulbs, and the glasses should be kept in a dark place until the roots have attained the length of an inch, which will prevent their becoming top-heavy; and the roots being in advance of the leaves will preserve the plant balanced erect. The bloom will also be finer, as the roots will be in a state to nourish the leaves before these are prematurely advanced. A piece of charcoal put into each glass will assist in giving nourishment to the plant, and also prevent putridity in the water.

STOVE.

Where there is but one house for the accommodation of tropical plants considerable care and attention are necessary to properly manage these at this season, as some, having completed their season's growth, require to be kept rather cool and dry, while others in free growth require to be encouraged with warmth and moisture. If there is no convenience for removing to a cooler house such things as have made their growth, these should be placed together at one end of the stove, keeping them sparingly supplied with water at the root, and giving air rather freely, which will generally serve to prevent any attempt at a second growth; and those requiring to be kept warm and moist should also be placed together at the opposite end of the house, where very little air should be given, using every care to keep the atmosphere about them moist, &c.—W. KEANE.

DOINGS OF THE LAST WEEK.

We have had another week of wet, windy weather, though a rising barometer on Wednesday morning gave some hopes of a change for the better. At times the rains were too heavy for any work out of doors being done advantageously. At other times farm men could cut the corn crops, and turn over what had been cut by the scythe, to prevent anything like growth, and but little of this has taken place, thanks to the coolness that accompanied the rain, and the breezes and winds that kept the air in motion. Notwithstanding the floods in some parts of the country, there is very much to be grateful for. Owing to these changes of weather, even in cottage gardens

most of the Potatoes have long lost their foliage, and in many cases are now greatly affected with the disease, which might not have been so bad, if the Potatoes had been taken up earlier; but in the long days of harvest, the labourer can do little for his own garden.

In the garden the work out of doors has chiefly been confined to mowing, and a little planting when the days are at all favourable, as planting when the ground is soaked is anything but well-timed labour. All work which the workman cannot do with some feeling of pleasure and satisfaction to himself, will be found in the end to be anything but economical.

KITCHEN GARDEN.

The chief work has been protecting young Cauliflowers, Lettuces, &c., from slugs and snails, pricking out Cabbages, and planting out lots of Endive and Lettuces, some of which will be raised again. We would plant in beds now, to be covered with glass afterwards, if we could find the room. A piece of Pea ground will soon be dug down, and that will come in for Endive and Lettuce. Slugs and snails threaten to be troublesome this wet weather, and worst of all they are rarely seen even in the early morning. A nice piece of Beetroot was stumped into or rather out of the ground by rabbits and hares, and we were forced to sow in a bed and transplant, which for one advantage will secure nice little tubers, as many persons object to large ones.

We have rather enjoyed the remarks of some correspondents on our telling about being so troubled with hares, rabbits, rats, pheasants, and myriads of birds, but except in the case of Peas, of which the birds did leave us rather scarce, we were not entirely beaten though obliged to use more labour. If it could be any consolation for us to find brethren in misfortune, it would be that the Royal Horticultural Society, with all suitable appliances at command, lost the first-trial Peas by slugs and snails, and next to lost the second sowing by mildew. Both evils have been rather prevalent this season; but whatever it may be to some it is no pleasure to us to find others suffering more than ourselves, though the comparative scarcity of fine-flavoured Peas this autumn should be said less about when many places have none at all. Our greatest enemies amongst Peas, far worse than even the thieving sparrows, are rats, which mount the sticks, cut off the pods, and either carry them off, or rip them up on the ground. For good reasons we do not use the gun, the most effectual settler for the rats; poisoning we are rather afraid of, and trapping seems to thin them but little. A rat razzia takes place now and then in the vicinity, but if we did not know to the contrary, we should have expected from the little decrease in the numbers that the rat-catchers had acted on the system pursued by Mr. Waterton in his young days—cut off the tails to count for pence, and let the owners of the tails go free to secure the continuance of the breed.

Celery.—Will wait for the first fine, dry day, to clear the suckers from a piece, tie it, and earth it up almost as much as we want it earthed up. The tying up helps alike the blanching and rising of the centre before any earthing is given, and the delay in the earthing, and avoiding the bit-by-bit earthing-up, is one of the best securities against running or bolting. We find that now most of our gardening writers and makers of calendars of operations are adopting this idea, though formerly nothing was more commonly met with than "Give a little more earthing-up to the Celery. Give little at a time and often." We advise to the contrary, that up to the end of warm weather in autumn, it is best to give earth seldom, and a good deal at a time. In fact, for all early Celery, if from tying the centre of the plant is well up, we would make the first earthing the only and final one. The reasons have been several times stated, and they are proved to be sound, from the rare occurrence of a bolted head among our early Celery-beds. As an index to the season, we may mention that our Celery-beds have only been twice watered, and hence we could not from the rains give them assistance with something stronger than water.

Cucumbers.—Took occasion in a somewhat dry day to bank round frames, &c., with litter and short grass, a mixture which is always sure to make a strong and rather continuous heat. Care must be taken that there be no holes in the frames, and that the sashes be not shoved down to let the steam in from such linings.

Kidney Beans.—Gathered Scarlet Runners and Dwarf Kidney Beans rather closely, picking off and throwing away, or using for pigs' meat, those pods becoming too large, as every pod with seed swelling in it will exhaust the plants more than a

dozen of young, crisp pods in which the embryo seed can scarcely be discerned. Succession late crops though strong, owing to the wet and the dullness, are not setting the pods so freely as the early ones did. Cleared a piece of Dwarf Kidney Beans in an earth pit, over which glass may be put when the weather is colder, and sowed some in pots to stand in a similar place, and which may be removed to perfect their crop late in autumn where there is a little artificial heat.

Tomatoes cleared of their extra foliage, are now ripening fast. Took up some of the most forward Onions, and as soon as possible will prepare the ground for early Cabbage. Planted out a late piece of Coleworts. The first planted are now heading well, and are very crisp and nice.

FRUIT GARDEN.

Did little here out of doors. We must have drier weather before we can clean Strawberry quarters, or even dig some down to prepare for other crops. Pulled and knocked up some large weeds, as otherwise they might seed before a general cleaning. Cut away all the runners from those plants in pots intended for forcing, and just sprinkled the surface of the pots with soot for the rains to wash in and make manure water for them. Have still a lot of Queens in small pots to pot, as we could not obtain runners early this season. They are now nice plants, however. Will prick out a lot more runners in a border, to be taken up for forcing if wanted next spring. For late forcing these do very well, but for early forcing the plants must be established in pots and well ripened in the previous autumn.

Peaches, Nectarines, Plums, &c., in orchard-houses and out of doors wanted looking over and gathering before properly ripe, as some security against wasps and large blue-bottle flies, which for nearly three weeks have been excessively troublesome, coming upon us all at once this season, as before that time we have scarcely seen a wasp. Nottingham netting is a good protection, and so is any sort of gauze if securely fastened all round, and the gauze stands out from the fruit. We have also found wadding useful, wrapping it thinly round the fruit, the woolly side outwards, as the wasp is much afraid of having its feet entangled. Having none of these remedies at hand, we have syringed the trees and killed great numbers of the wasps when down, terrified them with branches, and left some half-eaten fruit on the ground, where a single slap would settle sometimes half a score or a score at once. These half-eaten fruit, or even bitten fruit, will always be preferred by them to solid untouched fruit, and, therefore, a good deal may be done by leaving such alike as bait and trap. With all the equanimity of a philosopher, the philosopher will have to bite his lips to keep in something unpleasant when he sees the cares of the season in the shape of his finest fruits thus pounced upon and destroyed. The most effectual safeguard in all houses from such destructive insects, is covering all the ventilating and other openings with fine gauze, previously killing or driving out what may be inside. We have been taken unawares by the wasps this season, as having seen none during the summer, we expected no such hordes in autumn. A nice piece of late Gooseberries on a north border they have cleared, though covered with double netting. They have proved a much worse infestation beneath the netting than blackbirds, thrushes, or lots of small birds.

ORNAMENTAL DEPARTMENT.

Though there was a good deal of heavy rain on the 11th, there was a drying wind during the night, and there being no dew owing to a cloudy sky, it was dry enough on the morning of the 12th to permit of the mowing machine being used on the lawn, which will thus enable us to bring up our leeway. Longer grass was mowed and carried off in the mornings when at all suitable. A fine opportunity is now presented for rolling lawns and walks in a dry day, as then the roller will go much more easily and press quite enough.

Took the opportunity of dry intervals to make approaches and walks fair as respects appearances. Mowed the sides of the approaches and then cut the sides with an edging iron, to make the outline straight. This cutting is generally required for roads and walks once a year, and is best done in the spring, as after that the clipping shears will be sufficient, and no raw earth edge will be presented to the eye during the pleasant summer months. We can recollect the time when some gardeners looked upon a clear earth outline to the sides of walks and roads as something nice and pretty, and the iron used to be pressed in cutting so that the edgings might shine like a pair of well-polished boots. From thus cutting with a stiff

wrist, we have made our wrists so stiff and sore, to secure this polished outline, that we could scarcely raise our right arm at meal times, and from doing work which we now consider a deformity. Immediately after cutting the edging the earth will show for a short time in places, but the sooner it is concealed the better, as when all is as it should be, no earth will long obtrude on the eye between the gravel and the grass. Some are so particular on this point, that in forming new walks through lawns, the sides of the walks are lined with hard bricks set up edgewise, not perpendicularly, but bevelled so that the base side next the walk may be fully half an inch higher than the side next the lawn. The upper angle of the brick should be from 1½ to 2 inches above the gravel. From the top of the side of the brick thus sloping to the lawn, the turf can be placed in line with the walk-edging side. Ere long the bricks will be concealed by the out-jutting grass, and by this means, if shears are constantly used, they can clip close to the brick edging and no cutting with edging-irons will be required.

In many cases there is a great drawback to the generally enjoyable character of a demesne, from walks and carriage roads with deep raw sides like so many miniature ditches. The filling up of such walks with gravel would generally be a very serious matter, and in most cases uncalled for. We have often been glad of such an opportunity of obtaining a lot of nice fresh soil, and making a very pleasant improvement at the same time. Thus, roll back the turf for a yard, a couple of yards, or double that space, according to the depth of the edging and the character of the ground; take away to a regular level the soil, so that when the turf reaches the gravel it will be from 1½ to 2 inches above it and regular throughout. From such a simple operation we have heard gentlemen declare that they did not know their own carriage roads, and employers who would as soon have their heads scalped as let their gardener have a sod out of their park for his compost yard, will often allow him to take the soil, and fine surface soil too, though without turf, that may be obtained from thus equalising the edgings of roads and walks. The finest park roads that we ever saw are at Woburn. There would be no chance of adding to the compost yard by such means there, but of this we hope to say something before long. We have in our mind's eye other great places where the untidy, irregular, ditch-and-mound, rugged appearance of the sides of a carriage road conjured up impressions which the grandeur and high keeping of other parts did not thoroughly remove. Of course, in advocating low grass verges for roads and walks, and that the height of the grass from the gravel should be uniform, and meeting the gravel, we by no means infer that there should not be plenty of diversity in the level of the ground at a short distance from the road if such be its natural position.

Once more as to the good and easy keeping of walks and roads. It is important that a good width should be kept mown close to the walk and road. This will do something to prevent the adjacent grass seeding on the gravel. With all this care seed will be wafted, especially from grass parks, on to the roadway. On the hard well-used centre, there is but little chance of their growing, but towards the sides, which are more porous and less used, they will grow rapidly, and soon present a green carpet if let alone. Of course, salt at times would settle that, and especially if the sides of the road were rough and stony. As many, however, have an objection to salt, and as some cases have come under our notice where partridges and pheasants when young have been injured in picking up what they could find in such places, a great ease in cleaning will be secured by having 1 or 1½ foot on each side of the road of fine sifted gravel or sandy matter—say a couple of inches in thickness, through which a Dutch hoe and rake could easily pass, and always leave a fresh, neat appearance behind them.

Dressed and regulated flower-beds a little, and notwithstanding full exposure to winds and rains, they will yet be fine if we should be favoured with bright sunny weather. Auriculas, and the finer Polyanthus, should now be protected from heavy rains, and be kept quite free from weeds, a slimy surface of soil, and insects, such as green fly, on the leaves. If kept too damp now they will be more tender in winter.

The wet days enabled us to put in a good many cuttings, choosing a dry hour to take them off. An opportunity was also given for cleaning and top-dressing Camellias and Azaleas, tying the latter into shape, and examining the foliage for traces of thrips and mildew. Conservatory and flower-stoves were also thinned as respects creepers, to admit more light into the houses. All such hardwooded plants as Heaths, Epacrises, Aphelexis, Pimeleas, and Diosmas, should now be brought

under glass protection, but with plenty of air to keep them robust and hardy. Went on potting Primulas, Cinerarias, &c., keeping them cool, airy, and hardy, and giving full exposure to beds of Violets, which will ultimately be covered with glass in winter. Japan Lilies coming into bloom will be the better of manure water, and those done flowering, and dying down, will be the better of a dry, exposed place to ripen the bulbs. Amaryllis should be watered until the foliage give signs of becoming yellow, when it should be lessened to ripen the bulbs off, and where early Hyacinths and Narcissus are desired, they cannot be potted too soon. See the excellent article by Mr. Paul in a late Number. Among other things demanding attention, we would corroborate the practice of Mr. Robson as to lawn-making. Grass, however rough, if well mowed, and the weeds picked out, will make, when well laid, a better lawn than any sowing of seeds, at least that ever we saw, and next to turves, the piecing of such grass sods, and then sowing, will make an excellent lawn in a short time.—R. F.

COVENT GARDEN MARKET.—SEPTEMBER 15.

THE supplies of home-grown and foreign produce continue ample for all requirements. Of Grapes and Pears there is more than sufficient for the demand, and of Apples large quantities come in, but good kinds are somewhat scarce. Pears are principally confined to Williams's Bon Chretien, Louise Bonne, and Gratioli.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	2	0	0	8	Melons..... each	2	6	0	5
Apricots doz.	0	0	0	0	Nectarines doz.	2	0	4	0
Cherries lb.	0	0	0	0	Oranges 100	12	0	20	0
Chestnuts bush.	0	0	0	0	Peaches..... doz.	2	0	6	0
Currants ½ sieve	5	0	6	0	Pears (dessert) .. doz.	1	0	3	0
Black do.	0	0	0	0	Kitchen..... doz.	1	0	2	0
Figs doz.	1	0	2	0	Pine Apples lb.	8	0	5	0
Filberts.....lb.	0	6	1	0	Plums ½ sieve	7	0	0	0
Cobs 100 lbs.	0	6	1	0	Quinces ½ sieve	0	0	0	0
Gooseberries .. quart	0	0	0	0	Raspberries.....lb.	0	0	0	0
Grapes, Hothouse.. lb.	2	0	5	0	Strawberries.....lb.	0	0	0	0
Lemons 100	6	0	10	0	Walnuts..... bush.	10	0	14	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes each	0	2	0	0	Leeks bunch	0	8	0	0
Asparagus bundle	0	0	0	0	Lettuce.....perscore	1	0	1	6
Beans, Broad.. bushel	5	0	0	0	Mushrooms... pottle	1	6	2	6
Kidney ½ sieve	2	0	2	0	Must.d & Cress, punnet	0	2	0	0
Beet, Red..... doz.	2	0	3	0	Onions... doz. bunches	4	0	6	0
Broccoli bundle	1	0	1	6	Parsley ½ sieve	2	0	0	0
Brus. Sprouts ½ sieve	0	0	0	0	Parsnips..... doz.	0	9	1	6
Cabbage doz.	1	0	2	0	Peas..... per quart	0	9	1	2
Capicums..... 100	2	0	8	0	Potatoes..... bushel	2	0	4	0
Carrots bunch	0	4	0	6	Kidney do.	2	0	5	0
Cauliflower..... doz.	2	0	6	0	Radiashes doz. bunches	0	6	1	0
Celery bundle	2	0	8	0	Rhubarb..... bundle	0	0	0	0
Cucumbers..... each	0	4	1	0	Savoy..... doz.	0	0	0	0
pickling doz.	2	0	0	0	Sea-kale basket	0	0	0	0
Endive doz.	2	0	0	0	Shallots..... lb.	0	8	0	0
Fennel bunch	0	3	0	0	Spinach bushel	2	0	8	0
Garlic lb.	1	0	0	0	Tomatoes..... per doz.	1	0	2	0
Herbs bunch	0	3	0	0	Turnips bunch	0	4	0	6
Horseradish .. bundle	2	6	4	0	Vegetable Marrows dz.	0	9	1	0

TRADE CATALOGUES RECEIVED.

E. G. Henderson & Son, Wellington Road, St. John's Wood, London, N.W.—*Catalogue of Bulbs and other Flower Roots, &c.*
Hooper & Co., Covent Garden.—*Autumn Catalogue of Dutch, Cape, and other Flowering Bulbs, Seeds, &c.*
Dreghorn & Aitken, Kilmarnock, N.B.—*Catalogue of Bulbs.*
Thomas Sampson, Preston Road Nurseries, Yeovil, Somerset.—*Catalogue of Flower Roots.*

TO CORRESPONDENTS.

“We request that no one will write privately to the departmental writers of the ‘Journal of Horticulture, Cottage Gardener, and Country Gentleman.’ By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.”

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

BOOK (J. T. S.).—You cannot read your own phonography. The work we mentioned is London's “Self-Instructor,” but it contains instructions only on architectural and surveying drawing.

QUILLED ASTERS' SEED (G. G.).—Why not try whether you can raise seedlings that will produce flowers as good as their parents? Facts are better than opinions. There is some difficulty about ripening the seed, and we have heard that in Germany the seed-producing plants are kept under glass during the concluding time of their growth.

ELMS VISITED BY HORNETS.—“Some Elm trees which have within the last year been included in our pleasure grounds are suffering from attacks of hornets similar to those spoken of by your correspondent ‘H. M.’ The trees were formerly in a roadside hedgerow, and probably the roots have been much cut. The leaves are very small, and have been yellow since the first week in August. With the late storms they are now nearly bare.—E. S., West Wickham, Bromley, Kent.”

SOOT FOR MANURE (N. W. C.).—You do not state to what crop you wish to apply it. Send us further particulars.

JUCKER'S GLAZING WITHOUT PUTTY.—A correspondent wishes to know the direction of Mr. S. Jucker, Shrewsbury, who described his mode of glazing in this Journal, August 29th, 1895.

LARGE STRAWBERRIES (R. L.).—The “large” Strawberries with the most good attributes, including free setting, hardness, and good flavour, are Dr. Hogg, Wonderful, Cockscumb, and Frogmore Late Pine. Mr. Radcliffe is not yet sent out, but it is first-rate in every respect, both as to fruit and plant. The Royal Hantbois, Frogmore Late Pine, Dr. Hogg, Mr. Radcliffe, and Cockscumb are great acquisitions. The Rev. Mr. Radcliffe advises “R. L.” to purchase Sir J. Paxton in the place of Black Prince. It is “of the finest constitution, early, pleasant flavour, large and handsome, a sure setter, a good show sort, a great cropper, and a capital forcer. Comte de Zans (not Zyans), is thus described in Mrs. Nicholson's catalogue:—‘Comte de Zans’ (Comte de Flandre?), ‘a very large heavy cropper, and a capital market kind; large and good flavour.’”

GRAFTING ROSES.—“LOCH NESS” is sincerely thanked by ‘M.D.’ for his obliging reply respecting his mode of grafting Roses. The use of the Indian-rubber bands will facilitate the operation much for ladies. His kind offer of sending to the office of the Journal a plant with the band attached is gratefully accepted by ‘M.D.’ In return she will have much pleasure in sending a cutting of any Rose she may possess, which ‘LOCH NESS’ may desire to have, her collection being very good.”

TEMPERATURE OBSERVATIONS (J. B. Royston).—The self-registering maximum and minimum thermometers are read at Chiswick at 9 A.M., or soon afterwards, and the indications are set down to the preceding day—for example, the meteorological day of September 18th begins at 9 A.M. on September 18th and ends at 9 A.M. on September 19th. This is the system of registry recommended by the Committee of the Royal Society on Physics. However, 8 A.M., if convenient, is as good an hour as any other, and if you have made observations at that time for any considerable period it will be as well to adhere to it.

VIOLA CORNUTA (A. O.).—Yours appears to be the small-flowered variety. It is also of a lighter shade of colour. If your plants are growing in poor soil, and in a shady place, these circumstances would account for their being so small. The plants appear to have been grown in a damp shady place. Take cuttings of them at once, give them a fair chance, and tell us in the spring if they do not then answer your expectations; say if your plants are from seed. (*Deconies*).—We do not think yours is the best variety. It appears to be identical with the specimen sent by “A. O.” Let us know if your plants are from seed; if so, they will scarcely have had time to assume their proper character if the seeds were sown in the spring of this year. Propagate by cuttings. See answer to “A. O.” One of the worthless varieties grows much taller than Mr. Wills's variety of *Viola cornuta*. The other is much more dwarf and compact in its style of growth, and produces not half the quantity of bloom that the true variety does.

STORING APPLES (*Rotkley Cottage*).—The fruit should be gathered when it parts freely from the tree, and not before it is ripe, as if taken sooner it so generally shrivels. It should not only be gathered on a dry day, but during dry weather if possible. Gather the fruit carefully, and without bruising, and spread it out thinly on the floor of an airy room, there to remain for a few days to shelve with superfluous moisture. After this place the fruit on wooden shelves, or in bins, packing it in sawdust from non-resinous wood, such as Beech, Oak, or Ash. First place a sprinkling of sawdust at the bottom, then put in a layer of fruit, fill up the intervals with sawdust, then put in another layer of fruit, and so on until the bin is filled. Finally, cover the fruit with sawdust to the depth of 8 inches. The best place to keep Apples in is a dry, cool, and dark cellar. Care must be taken in packing them in this manner to select only the finest, and those free from specks and cracks, as such do not keep nearly so long as the sound fruit. Apples likewise keep exceedingly well on a layer of clean, dry, wheaten straw on the floor of the fruit-room. We lay them three fruits thick, and cover with a thin layer of straw. We also keep them on shelves, covering them with straw, which we remove occasionally in order to examine them, and allow moisture to pass off, giving air during the day, and replacing the covering at night. Any cool room secure from frost will answer for keeping Apples. It should be dark, and not too damp. A dry and warm room causes them to shrivel, and if exposed to the light they do not keep so long as in darkness.

ERIBOTRYA JAPONICA (T. M. K.).—This, the Loquat, has been successfully cultivated in England for its fruit. With us it has grown freely in the south-west angle of a kitchen garden, where it seemed to do well in common garden soil. It is sufficiently hardy to endure our ordinary winters in warm sheltered situations if trained against a wall having a southern aspect. It may receive the same treatment as the Fig tree in respect to pruning, which is confined to thinning out the shoots and stopping to cause the production of others. The shoots ought to be trained to the wall at 9 inches apart. Afford protection in severe weather by a covering of mats, but remove them in mild weather. It grows and does best in a cool house. There is a drawing of the fruit, ripened at Lord Bagot's, in the third volume of the Horticultural Society's “Transactions.” Rivers's “Orchard-House” contains information on the culture of Orange trees for fruit.

CYPERUS ALTERNIFOLIUS VARIEGATUS LOSING ITS VARIATION (*Dull Fellow*).—This is to be accounted for by your having given the plant too rich soil and placed it in a Cucumber-frame, where it would grow rank. To make it retain the variegation it needs very poor soil, the greater portion of which should be sand. This, and the heat of a warm greenhouse or cool stove, are all that it requires in order to regain its variegation.

PROPAGATING CACTI (*Jessie*).—These are readily increased by cuttings, the shoots being cut below a joint or eye, and from 4 to 6 inches of the points taken off. These, laid on a shelf for a few days until the cut is dried or healed, may be inserted to one-third their depth in sharp sand, the base of the cutting resting on the sand, the pot, which should be well drained, being filled to within 2 inches of the rim with equal parts of turfy loam and pieces of brick, or crocks broken small. With the soil kept no more than just moist they strike root well on the shelf of a greenhouse in the full sun. When the growth has attained its full size and become plump, water should be gradually withheld and the plants put to rest, never allowing the soil to become so dry as to cause the shoots to shrivel.

WINTERING GERANIUMS IN A CELLAR (*Idem*).—You may take up the large plants in their pots when danger from frost is apprehended, and after depriving them of all their leaves place them in the dry cellar, where they may remain throughout the winter without any attention beyond the removal of decaying or mouldy stems or shoots, which should be cut off with a sharp knife. They should not under any circumstances be watered. Fuchsias may be kept in the same manner and place.

WINTERING GERANIUM CUTTINGS (*A Subscriber*).—If you bank up with leaves the sides of the frame in which the cuttings have been struck on a spent hotbed, quite up to a level with the lights, and protect the latter with mats and dry litter during frosty weather so as to keep out frost, the cuttings will winter safely. The only danger you will have to fear is damping, and that may be in a great measure guarded against by keeping them dry, and giving air freely on all favourable occasions.

EXPOSING VINES IN WINTER (*An Amateur*).—The Vines would be the better of not being turned out of doors. Your giving abundance of air and a little fire heat will contribute more towards ripening the wood than turning them out. It is a very old practice to turn out Vines in winter, but it does more harm than good. Keep them in-doors, and they will sustain no injury, if the temperature from fire heat do not exceed 40°. The dressing of cording will do the border no harm, as the presence of the white roots indicates, but we would not repeat it this year, but give a dressing of bone dust in spring.

VINE CUTTINGS STRUCK LAST MARCH (*Idem*).—These, if they are, as you say, only 3 feet in length of cane, and in 82-sized pots, will not fruit next year unless they are much stronger than we usually see them in that size of pot. They should not be potted until February or March, when they should have nine-inch pots, and in June give them their final shift into 18 or 15-inch pots. They should be wintered in a cool dry place, and the roots protected from frost. With respect to the other Vine which you have in a 12-inch pot, you will do well to examine the drainage, and give a top-dressing of rich compost, removing as much of the old as possible without going so deep as to injure the roots. This should be done when the leaves turn yellow, and the Vine should be pruned when they fall. It should fruit next season.

GREENHOUSE PLANTS DRAWING UP (*A Young Gardener*).—Your plants are not stocky in consequence of having been kept at too great a distance from the glass, and the atmosphere being too close and warm from defective ventilation. The shade afforded by the Vine will also tend to prevent the plants becoming stiff and compact. Your only remedy is to place them nearer the glass, to give more ventilation, and remove the shade, which is only wanted for Geraniums when they are in bloom. It is very desirable that the top lights of the roof should open, and if they were to do so we think you might grow Geraniums in your house with fair success.

BLACK CURRANTS UNFRUITFUL (*X. Y. Z.*).—You will not do the trees any good by taking them up and pruning the roots. Their unfruitfulness is more due to the aspect (a north wall) than anything else. If you train the shoots 9 inches apart, and do not stop the leaders, but stop the side shoots closely to three joints, we think they will bear, and especially the Red and White. All, however, grow vigorously against a north wall, or on a north aspect, for some years after planting.

POTTING ROSES (*Idem*).—You may take up the half-standard Roses and pot them when the lower leaves turn yellow and begin to fall, or in mild weather from the middle of October to the middle of March; but it is best done from the beginning of November to the middle of December.

CESTRUM AURANTIACUM NOT FLOWERING (*T. C.*).—This plant will flower most freely if it be planted in a compost of turfy loam two-thirds, leaf mould one-third, and sharp sand one-sixth, either in a greenhouse border or in a pot. It may be trained to a pillar, roof, or wall, its shoots being thinned so as to have plenty of air and light, and no creeps or other plants should shade it. If thus treated it will flower freely in autumn and winter. It is one of the sweetest and handsomest plants for the pillars of greenhouses or conservatories; but it will not flower without plenty of air and light, and its roots being rather cramped or confined. Do not stop the shoots, for it blooms from their points; keep it well supplied with water, and afford occasional applications of manure water at intervals, especially if the root room be small, not only when it is growing but flowering. After blooming keep the plant dry for a month or six weeks, then prune it rather closely, and when the new shoots appear thin out the weakest, top-dressing with rich soil if in a border, or repotting if it is in a pot. Afterwards keep rather close and moist, also shaded for a few days until the roots are working in the fresh soil. Keep it well supplied with water, and encourage growth by frequent syringing, then lessen the supply of water, but not so as to cause the leaves to turn yellow and fall; expose fully to air and light, and you will find the shoots thicken at their points. When the shoots commence to show bloom water freely, and afford a supply of liquid manure once a week.

TACONIA VAN-VOLKXMI CULTURE (*Idem*).—You may grow this plant successfully in a pot, training it over an ordinary balloon frame. Keep it as near the glass as possible, and not shaded in any way by other plants. It would, however, succeed better if planted out and trained to the roof about a foot from the glass.

ERRATUM.—Page 196, 2nd column, 28th line from top, for "score" read "coarse."

VINE LEAVES DISEASED (*J. W.*).—The appearance of the leaves leads us to conclude that the atmosphere has not been kept sufficiently moist when they were forming. That and currents of cold air are the usual causes of the blistered appearance. There are also traces of mildew, but it is very slight, and will readily yield to sulphur dusted over the foliage.

VINES INARCHED (*E. Thomas*).—Your Muscat Hamburgh Vine inarched on the Black Hamburgh should be planted out in the border early in March. We would not advise the grafting or inarching of the White Frontignan on the Royal Muscadine, but would take up the latter and plant the inarched Muscat Hamburgh in its place, and the White Frontignan we would inarch next spring on the Black Champion, or now if the leaves of stock and scion are both fresh. The Duchess of Buccleuch is a fine-flavoured Grape, as good a bearer as the Chasselas Musqué, and not so liable to crack.

DAHLIA CARACTACUS (*Old Soldier*).—We have seen it fine. As your plant was a cutting, the smallness of the bloom this year was caused probably by the plant being weak. If so, the blooms will be improved next year.

VINE CUTTINGS FOR THE CAPE OF GOOD HOPE (*E. B.*).—As soon as the cuttings are ready in the autumn, cut, and pack them in damp sand in a strong box. They will arrive in good condition, for the voyage is only of six or seven weeks' duration, and even less by steamer.

GOVANT GARDEN MARKET PRICES (*Bolton*).—The prices we publish are the retail prices. What proportion of them the producer ought to receive is quite impossible for us to state. Quality, condition, demand, have all to be considered. The retailer must have a very wide margin between the buying and selling prices to compensate him for decay and want of purchasers.

TREES FOR WALLS (*T. W.*).—Your arrangement of Pear trees on the west aspect, Plums on the east and west, Peaches, Nectarines, Apricots, and Vines on the south aspect is good. We recommend Grosse Mignonne Peach, Violette Hâtive Nectarine, Moorpark Apricot; and of the two Vines named we would give the preference to the Esperone. Though your selection of Pears is good, we would recommend for four, instead of Easter Burrett, Ne Plus Meuris. Marechal Niel Rose will do admirably, but we should prefer it on a stock—the Briar if the soil be strong; if light it will do on its own roots. Gloire de Dijon is certainly not easily rivalled; but what do you think of the climbing Devonensis for a wall? Clematises Standishii and Fortuni are hardly against a wall, but require a west-wind aspect to do well; at least we have not tried them on a west wall. Wistaria would do, also Noisette Rose Lamarque.

FERNS (*P. J. Newton*).—Do any of our readers know whether Pteris cretica albo-lineata has been successfully used as a plant for a ribbon border? You can have "British Ferns" free by post from our office if you enclose 8s. 10d. in postage stamps, the "The Fern Manual" for 6s. 4d. in stamps. They contain the information you need.

SOIL FOR MELONS—COCKSCOMB (*T. Corkhill*).—In your peaty soil the road scrapings that set hard may be mixed up with your soil in the proportion of one-third scrapings to two-thirds of soil, and one-sixth of rotten dung. These should be beaten firmly together as soon as the Melon plants begin to grow. Even then the compost will not be equal to good stiffish loam; you may economise that very much by restricting it to about 2 feet in width in your beds. A Cockscorb sown in February may be grown to full perfection in July. We expect you have the thrips, and must fumigate and syringe.

KIDDEAN MODE OF HEATING (*G. B. C.*).—There is no doubt of the Kiddean system of heating answering when it is well managed, but yours is not the Kiddean system, but the common one of taking a flue through a chamber. We have no doubt that the proposed plan will answer. We would place the iron bars from 8 to 6 inches above the flue. The opening, or rather two openings, from the outside into the chamber will answer well if furnished with plugs to regulate the admission of cold air, and your three openings into the atmosphere of the house will keep up a nice circulation. The arrangements for feeding the fire and cleaning the flue are good. If your chamber is higher than the Cucumber-frame there will be no difficulty in taking hot air across to the frame, but if the frame is lower it will not be so easily done. In preparing such a frame for cuttings, &c., in winter, be satisfied with the lime rubbish and dry rough coal ashes on the surface, and keep your sods and soil out until you want them for the crops of Cucumbers, &c.

VINERY OUTSIDE BORDER (*J. Massey*).—Refer to what is said in the second column in page 206 of our last Number. Boarded covers are best. Frames made of wood and covered with asphalt are very good. Frigid domes will be of no use. Oiled canvas, supported clear of the ground and the ground covering, will do very well, but if not carefully looked after it will soon rot and mildew. The cheapest plan for keeping the border dry, but not for keeping the cold out without protection above it, is to make the border smooth at the surface and a little damp, then cover it all over with coal tar about the thickness of a shilling, throw some sawdust or road dirt over it, and take it off again next season about May. The covering above will keep the frost out.

WEED ON LAWN (*A Subscriber, Manchester*).—The scrap sent was totally insufficient for determination.

HOUSE FOR PEACHES AND NECTARINES (*Iago*).—The proposed plan will answer very well, and you might have Vines up the roof 6 or 8 feet apart. Add to your list of Nectarines, Pitmaston Orange, Rivers's Orange, Elrage, Balgowan. To your Peaches add, Chancellor, late; Early Purple; Late Admirable, late; Walburton Admirable, late; and Teton de Venus, late.

GLADIOLI TROPHY.—"Permit me to correct an error into which your correspondent 'D. Deal' has fallen with regard to my stand of Gladioli at the Crystal Palace. I was fortunate enough to obtain the first prize for the 'Trophy,' which at much trouble I had made for the Crystal Palace Exhibition, and not Messrs. Kelway as stated. — GEORGE PRINCE, Market Street, Oxford."

CALADIUM (*T. T., Isleworth*).—They are now so numerous, and many so nearly alike, that we cannot venture to name the plant from the two imperfect leaves you enclosed.

ROSES NOT OPENING (*Sunny*).—We think that the late cold wet weather is the cause of the buds not opening. We find that many of ours die off. A period of dry weather will set those not injured all right.

WINTERING CALCEOLARIAS AND GERANIUMS (*A. E. Corwood*).—It is not necessary to have a brick pit for wintering Calceolarias, as an ordinary garden frame will do equally well if the sides be banked up with ashes or soil. You may, however, have a brick pit for both, but it should be divided into two compartments by a 4½-inch brick wall. If it is to be used for bedding plants only, it will merely be necessary to dig out a foot or so for foundations, and then carry up nine-inch brick walls 8 feet high at back, and 1 foot 6 inches in front, and on this place the frame and lights. Any bricklayer and joiner could make you a pit. Choose for it a dry, warm, and sheltered situation. If you wish to grow Cucumbers or Melons in the pit in summer, the soil should be taken out 8 feet deeper to afford space for a hotbed of leaves or dung. We shall be ready with particulars at the proper time as to the preparation of the pit for the cuttings of Calceolarias and Geraniums.

RASPBERRIES UNFRUITFUL (*S. C.*).—We think your soil is much too rich, and the canes too close together, so that long sappy shoots which do not ripen are produced. Thin out the stools to 4 feet apart, or plant in lines 6 feet by 8 apart. Thin out the canes to six of the best and strongest to a stool, and instead of manuring and digging the manure in, give a slight dressing of manure in autumn, leaving it there until February; then merely point over the soil between the rows with a fork. In spring, when the suckers are 1 foot high, remove all except six of the strongest to each stool. Allow these to grow, and after the fruit has been gathered cut away the old bearing canes close to the ground. Fastolf, Carter's Prolific, Prince of Wales, and Red Antwerp, are all very free-bearing, and of excellent quality.

DESTROYING WOODLICE (*B. H. H.*).—You may give the ground a dressing of gas lime in autumn, and let it lie on the surface for a few days, then dig it in, pouring ammoniacal liquor from the gasworks along the wall. You must not put on the gas lime if there be any trees in the garden, nor crop the ground until it has laid six months and been dug over twice. Your safest plan would be to keep a few small fowls in the garden; they would soon clear the ground of woodlice and other equally destructive insects. If the soil is heavy, paring and burning would be a good plan to adopt.

SHADING A HARDY FERNERY (*W. R. H.*).—As your fernery has a north aspect, and is, we presume, so shielded from the south by a wall as not to receive any sun except for a short time during the day, or only morning and evening, we do not think you will require any tree for shade; but in any case the same prejudicial effects as before will result from a tree planted now, for the roots of the new tree will extend amongst the Ferns, just as those of the old Willow tree did. If we were to plant a tree at all we should not choose either a Sumach or an Acacia, but something better calculated to afford shade, as a Lime or a Beech. You may safely plant any of the trees mentioned at a height of 6 feet.

CLIMBERS FOR A WOODEN FENCE (*Idem*).—Of the plants you name, Passiflora cerulea would prove hardy, we think; and but two of the others are evergreen, which is not what you wish. We advise Crataegus pyracantha, Photinia serrulata, Berberis Darwinii, Viburnum suspensum, Cotoneaster Simmonsi, and Escallonia macrantha.

NAME OF ROSE (*E. C., Littlebury*).—Noisette Solitaire.

NAMES OF FRUIT (*H. P.*).—Not Bergamotte d'Esperen; it resembles the Washington. (*D. J. C.*).—Pear: 1, Flemish Beauty; 2 and 3, Pome Colmar; 4, 6, and 8, numbers loose; 5, Duchesse d'Angoulême; 7, Doyenné d'Été. Peaches: 1, Royal George; 2, Grosse Mignonne; 3, the leaf appears to be that of the Grosse Mignonne.

NAMES OF PLANTS (*P. J. Newton*).—Seemingly Ceanothus dentatus, but we cannot be sure without seeing the bloom. (*G. F.*).—Tigridia pavonia. (*P. C.*).—1, Pteris longifolia, var. serrulata; 2, Stevia fascicularis. (*E. T. W.*).—Pteroma heteromallum. (*N. W. C.*).—1, Myoporum parvifolium; 2, Gnaphalium tomentosum. (*G. V. S.*).—Salpiglossis atro-purpurea. (*G. G.*).—Hoya bella. (*G. B.*).—1, Selaginella Martensii; 2, Blechnum, perhaps B. polypodioides; 3, Asplenium marinum; 4, Lastrea dilatata; 5, Polystichum lonchitis; 6, Cheilanthes hirta; 7, Selaginella denticulata; 8, Adiantum formosum. (*H. T. A.*).—Appears to be a very interesting variety of Athyrium Filix-femina. Can you send us a better specimen, and let us know where you obtained it from? (*W. A. W.*).—It is quite impossible to name Conifers from the mere points of their shoots.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending September 15th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 9	29.779	29.578	68	58	62	59	S.E.	.24	Overcast; cloudy; overcast; showery; rain at night.
Mon. . . 10	29.589	29.452	69	50	61	59	S.W.	.06	Heavy rain; fine; overcast.
Tues. . . 11	29.682	29.495	68	48	60	58	S.W.	.16	Rain; boisterous; fine; showery.
Wed. . . 12	29.928	29.769	60	47	60	58	S.W.	.08	Overcast; uniformly overcast; cold drizzling rain.
Thurs. . 13	29.988	29.688	66	50	60	58	W.	.40	Cloudy; very fine; overcast; heavy clouds; rain at night. [cold.]
Fri. . . 14	29.621	29.493	65	42	60	58	W.	.02	Cloudy and boisterous; low clouds, with clear intervals; clear and
Sat. . . 15	29.692	29.624	65	43	60	58	S.W.	.04	Clear and fine; masses of low white clouds; starlight; cold at night.
Mean	29.746	29.576	65.14	47.28	60.71	58.64	..	0.95	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

THE STORY OF MY WHITE DORKING CHICKENS.

"It is a very foolish idea. Do not have chickens for the world, to run up and down, scratching everywhere, making messes on the lawn, and waking one up in the middle of the night with their noises."

"Why, papa, everybody's chickens don't do so," I said, in reply.

"Then they go to a world of expense to enclose them. No, we will have none of that bother."

A few weeks after this papa went to Birmingham about business, and he came home late in the evening with a strange-looking parcel. I think I ought not to call it such, for it was nothing less than a can, such as children use for carrying a quart of milk.

"Here is a present for you, Maud, for sitting up for me. Now, handle it carefully, for it will break."

"What is it?" Very eagerly I pulled off the lid, and looking in could see nothing but a solid mass of bran. The only thought in my head was to turn all out upon the floor. I dare say I should have done so in my impatience, but we had just had a pretty new carpet, and I did not like to spoil it. "Why, what is it?" I inquired, again poking my fingers in—and behold they were eggs.

"Yes, they are eggs for hatching; you see I had an offer of them this morning and could not well refuse, so I thought of you and bought them. I suppose they are first-raters."

With many thanks and much pleasure I took possession of my eggs. But what to do with them?

"You must have them sat upon as early as possible."

"But we have no hen, and I don't know where to get one."

"Try the market."

"Market hens never do well."

"Well, you must do the best you can, I cannot bother about that. You have been raving after poultry for years."

The eggs were put back into the bran. No hen could be had for love or money. The country people laughed at the idea of borrowing a hen in the beginning of April. "Why, you see, Miss, everybody wants them for themselves, they haven't had the trouble of keeping them all winter to lend in spring;" and the farmers' wives said they "never knew their hens be so long wanting to sit all their lives, it was very strange, but they could not help it;" and there was no "WILTSHIRE RECTOR" in our district to proffer kindly help in our need.

Day after day passed, papa grew cross, for he said they represented so many half-crowns; and the gardener was overheard to say, he "would build his stable before he bought his horse." Late one evening there came a little barelegged lad with a black hen under his arm. He asked for "Miss." Miss was out, so in trouble he went away with his burden. Next morning he came again, saying over the same ditty, asking for Miss. "I'll lend you this if you'll feed it, don't pine it; it's all I have." He sat down on the soft grass and smoothed the ruffled feathers of his quiet hen as he spoke. I sat down by his side.

The little ten-year-old soon told me all his troubles—"How much he wanted to have chickens of his own, and she (his stepmother) would not let him; how she stole the eggs out of the nest when he was away out in the fields picking up stones; and then said she did not lay, as if a hen ever 'clocked' without having laid; but then his stepmother had come from Manchester, and he didn't suppose they ever had fowls there." "But will your mother be angry if you lend her to me?" "I don't care if she is, for she said yesterday she would drown her to make her forget chickens." So I proffered a shilling for the loan of the hen, 6d. to be paid down at once, and the other half when she was returned; but the little fellow was fully alive to the value of his property, and had his own conditions to make.

He must choose the place for sitting, and be allowed to visit her now and then. The place was on the floor in a stable not then in use, and the nest was made round with a few stones and bricks, and a basketful of fresh soil from the garden put in the bottom. Then the dear half-crown eggs were put in, the little boy doing all this. Of course, at first the hen did not like the strange place, but we waited quietly, and by-and-by she walked on the nest, and settled down. "Oh, she'll sit now, no fear," the little boy exclaimed in great glee. Then he showed me how to take her from the nest if she did not come herself—"and she will not, for fear you should rob her. See, put your hands under her wings and lift her up so, or else she may break one by holding it in her wing, and if she does that every day there won't be many left at the end of three weeks. Do it every day, make her eat, if you don't the eggs won't grow, and she will starve. I'm always cold when I go to bed without supper, and she will be too." I thanked the little fellow, put him out at the back gate, and told him to come as often as he liked to look at his pet.

The days wore on to the end of the three weeks. I had been out visiting some friends and came home through the soft moonlight, one May-day evening. "Your chicks are out, Miss, I believe," said cook, "for I heard a queer noise in the stable this afternoon, and the little boy was here, and he said, 'I must not go near for the world, the black hen would bite all the skin of me if I did, for she couldn't bide big women.'" We took a candle, the lantern could not be found, and went out to see. The nest was there, bricks, stones, and soil, but no hen, no chicks. The stable was well nigh empty, so our search soon came to an end. "That comes of having anything to do with common people," said cook, "I thought the little imp was after something, he laughed so, and was about all the afternoon."

On our way back to the kitchen door we had to pass a little outhouse where grain and meal were kept. Chancing to pause by this door, I thought I heard a low chirping noise, so looked in. There in a corner, half buried in fresh hay, was the poor black hen. I lifted her off in the old way. Dear me, what a nestful of soft white balls—thirteen, of them—strong living chickens. Oh! the joy it was to see them. I wonder if the reverence, the awe with which in our young days we look upon new life, must die away as we become older and wiser. I pray not.

Next morning came the feeding question. "They must have nothing but chopped-up eggs and suet," said one; "bread soaked in gin is the best thing," said another. "You will never rear them," said papa. "Dorkings are the worst of all fowls to rear, I have been reading about them in Johnson's 'Poultry Book,' and they will thrive only on a sandy soil, and ours has no sand in it. If I had known all this before, I would not have thrown away a guinea and a half."

"Don't give them chopped eggs at first, if you are wise," said mamma, "if you do they will eat nothing else, and you cannot afford to buy eggs for them at 15d. a-dozen, even if you would."

"Oh, I will give them bread and milk; old Mrs. Sanders down in the valley does hers, and she rears for the market."

"You might as well give them poison at once, cook says," remarked papa.

"Cook knows nothing about the matter. Colonel Simpson keeps scores of fowls, and he feeds his on rice, dry rice," said cousin Walter, "I would try that, it would be cheap food for them. You can buy it at 2d. a-pound."

"Yes, but his are Bantams," said papa, "and they are hardy compared to White Dorkings. They may well be Bantams, poor things, they could not well grow into anything else on such food." And quite out of patience I set off with some bread and new milk for my little flock. I had been longing to see them all breakfast time, and durst not leave.

They all followed—papa, mamma, cousin Walter, cook, housemaid, and even little scully with her black face. I suppose they expected to see the poor things drop down dead the moment they tasted the bread. They must have been greatly disappointed, for out came the little white balls from under the black hen, and they danced, and sang, and tumbled about their saucer, and then ran back to their mother, who had all the time sat still in the corner looking defiance at us. Cook ventured to take up a chick just for the sake of feeling what it was like, and up flew the hen in no time, and verily took the piece out of her thumb.

After this I had my own way with the Dorkings, no one troubling me, indeed, I think they were afraid of the hen. I

followed the little boy's advice, which was to give them plenty, but not too much. The hen was a good mother, and they grew amazingly. I never before or since saw chickens grow at the rate they did. All went on well until the little things—no longer little, though—were five weeks old. I must say here that I always shut them up for an hour in the middle of the day, thus compelling rest. I went out about noon, only twelve answered to the call. Over and over again, I counted them, first in grief, then in desperation; through the garden, plantation, and field I sought for hours and could not find it. What had become of it? Had it been devoured by a dog? but then dogs do not generally hurt fowls; or had it been driven far from its accustomed path and so knew not the way back? or had it been catapulted to death by some grammar-school boy and left unburied under some lonely hedge, perhaps left with a laugh and a great shout of victory, for boys are wicked things. It was a stormy day of wind and rain; perhaps the little thing had strayed beyond all reach of its mother's call, beyond all reach of her hearing, and so come to some untimely end; perhaps in very agony it died of fright, as they say chickens will do. It could not be found. I sought long after hope had departed.

Six weeks after this a poor lost chicken strayed one evening when nearly dark into the yard, and lay down by the closed door which opened into the little house where the Dorkings slept. It was a chicken in size and appearance, and yet wanting all a chicken's life, and joy, and spirits; a very nomad of the lanes and hedges, or of some half-fed farmyard. "It is one of your own," said papa, who was just coming in.

"Oh, no, it is not, I locked up the twelve an hour ago; they are all right and safe."

The door was unlocked, and we went in to make assurance doubly sure. The chickens with a great bound followed.

"Yes," he said, "it was your own, it could not have known the way in else; you are very careless, not fit to be trusted with anything."

I did not speak; I was not heeding papa in the least. I was only counting over the poor birds; first by one's, then by three's, and count them as I would they would not come an even number. "There are thirteen of them, so it must be the lost one come back. Where can it have been all this time? My poor lost birdie, how dirty and scared you look!"

Papa laughed at the very idea; then he would count them; so he did, over and over again, still they would be thirteen.

Yes, it was indeed my poor lost chicken come back, and it nestled close up to the others without fear, but did not seem to like its mother. Had it been carried off that windy day—stolen, and now brought back a sort of conscience gift? or had it picked up its living in the fields, sleeping in a tree, as they say the birds do in Devonshire? No, it was too fleshy for that.

The principal thing in which it differed from the others was in the dull, ruffled state of its feathers; it looked like a piece of soiled calico laid by the side of costly silk, for my birds were bright and sleek, and, oh, so soft to handle, and, like most Dorkings, sweet-tempered.

About this time we sent away the black hen, for she was beginning not to care much for her over-grown youngsters, and they, on their part, often refused to obey her call, looking on in lordly indifference, weighing more and standing higher than their plebeian mother. They seemed, too, to be having thoughts and fancies of their own—wonderments about the world beyond the field and plantation, where they had scraped and sought flies, and basked in the summer sunshine all their lives. I began to be afraid lest, like Muscovy Ducks, they should go away in a body and never come back, for they would often spread out their large wings and carry themselves up into a tree, or to the top of a wall, take a long survey, and then come down with as much noise and swoop as a five-year-old Peacock. I often think the come-back chicken must have told strange stories of the rich feeding land outside the boundaries of their little domain, and so have filled their heads with wild longings for the corn-fields browning on the hill sides, and the fresh-ploughed fields where the dainty worms hid. They grew restless, wandered up and down, scratching among the flowers, taking a particular liking to a pansy-bed of mamma's. Dear me! how they did stamp and root up among them, breaking off whole heads of Clara Dean's and Lucy Brooksbank's. Yes, they did all that papa said they would, and more, and we were forced to go to a world of expense to enclose them.

Then came the question, What was to be done with them? we did not need thirteen. Mamma offered me 3s. a-head for six, saying I should have plenty left. Cousin Walter said I

should be cruel and hard-hearted if I could sell and then eat my pets; so I wavered and waited. Then they took to fighting; often did I find them bleeding. One was taken up for dead, he had bled so much. They would fight until they could neither stand, nor see, nor eat. Yes, I had petted them; if to see they had clean water, suitable food, warm shelter from the wind and rain and cold, and shade from the burning sun—if that is petting, they had had plenty of it. Maybe I had done a little more; I had sat on the grass and stroked them, they would not have been so bright if I had not; perhaps I had been foolish, but then I troubled no one with it; and surely I had not done it that they should come to so unnatural, so unworthy an end, serving no useful purpose; better had they been confined in their shells at once. So I handed over to cook half-a-dozen to fatten up when required, and cousin Walter had many a good dinner, picking their bones; but as he had delicate feelings we did not tell him until the last was consumed.

In the early part of December there was a great poultry show held in a town a few miles from us. "What think you, Maud, if we send your birds to the exhibition?" said papa. Of course I seized the idea rapturously, though mamma shook her head, and cousin Walter said, "Of all the silly things I had done it was the silliest." So the entrance fee was paid; a new basket hamper of peeled willow, price 12s. 6d., bought; a man hired to take them to the town and to bring them back as soon as the exhibition closed. We packed them off in great state, they were very white and beautiful, and we were in high spirits, quite sure of success; sure that the silver cup, given by the new Mayor, would be ours. Why should it not? And how well it would look standing upon our sideboard. How we laughed and talked and pleased ourselves. Three days afterwards the man brought them home in an old, dirty, broken-down brown hamper, much too small for them; their tails were broken, their wings soiled, their beauty nearly gone. I never sent them to a show again. What the man charged for his three days out it does not matter—my purse was bankrupt. So ends the story of my White Dorking chickens.—MAUD.

THE SCHEDULE OF THE BIRMINGHAM POULTRY SHOW.

I PERCEIVE in your publication of the 11th inst., that a correspondent, signing himself "AN OLD EXHIBITOR," complains of not being able to obtain a copy of the prize schedule of the next Birmingham Poultry Show. Even at the time of my writing, the evening of the 13th, this complaint is general, and various are the conjectures afloat to account for this unprecedented dilatoriness.

In this day's *Birmingham Gazette*, however, a paragraph appears purporting to be an extract from the coming Birmingham prize list; and taking for granted that it is a correct statement, I have cut it from that paper, and enclosed it for perusal. The applications for schedules at the office, which have been many, are all met by the officials representing the Bingley Hall Show with the statement, "The prize lists are not yet ready." Certainly they ought to have been in circulation long before this if the prize lists are really intended to serve the purposes of subscribers, and the Birmingham Council are earnestly endeavouring to still maintain the position of this Exhibition as the principal Show in the kingdom.

It has been long rumoured that the Birmingham prize list was to be remodelled. This has, according to the *Birmingham Gazette*, evidently been accomplished; but the changes do not by any means betoken improvement, and, in fact, press most unjustly on many of the subscribers, through the dissimilitude of the premiums both as to number and value to the different classes. It is really an enigma why six prizes should be given, for instance, in the Dorking classes, whilst the Game exhibitors are allotted but four. It is well known the Game classes at Birmingham have always abounded in first-rate birds, though, unhappily, it is as universally acknowledged that for some years past the prizes have never fallen to the best pens exhibited. Surely the blame, however, and the subsequent complaints that have necessarily arisen as to the awards, fall entirely upon the incompetency of the arbitrators, not upon a want of merit in the Game classes themselves.

The supposition so generally entertained that this year's "docking" of the Game prizes is only a prelude to their exclusion altogether from the Birmingham prize schedule in future years, seems gaining ground daily among breeders of

these interesting and popular varieties. To discourage the most beautiful breed of fowls that is to be found throughout an exhibition, simply on account of the difficulty of obtaining arbitrators to properly award the premiums in these classes, seems so unique a mode of retaliation, that Game breeders were quite unprepared for it, and it gives a strong colouring of truth to the statement of your correspondent "AN OLD EXHIBITOR," when he writes—"The Committee are so fixed against having different judges, and knowing the incapacities of the old staff, think they may perhaps be able with rather more correctness to award the prizes to single birds, and that the best may then win, instead of the highest honours (as at the last Show) being given to many of the worst pens."

That there are parties at the head of affairs at Birmingham who earnestly wish they could with safety expunge the classes for Game fowls entirely is well known; but to do this abruptly would defeat the end in view—namely, to avoid the controversies that now always take place as to the Game decisions. A far more feasible mode of public reparation would be found in the appointment of arbitrators whose awards stand above suspicion, than in the continuance of those judges whose prior adjudications were clouded with complications that have not only never been explained, but, on the contrary, tenaciously kept secret, and winked at annually.—GAME COCK.

[EXTRACT.]

"The poultry prize list has been entirely remodelled, and instead of classes for a cock and two hens, with classes for single cocks and for two hens, there are only two classes for each breed, and the number of prizes in some of the classes have been increased. Dorkings are placed first on the list; and in Class I., for Coloured Dorkings (except Silver), for the best cock exceeding one year old there are six prizes—viz., £3, £2 10s., £2, £1 10s., £1, and 10s. Similar amounts are offered in Class II., for the best cock hatched in 1866; in Class III., for the best two hens exceeding one year old; and in Class IV., for the best two pullets. A similar classification is adopted for all other varieties, with the exception that for Cochins there are only five prizes, varying from £3 to 10s.; in Spanish, four, varying from £3 to £1; Hamburgs, five; Brahma Pootra and Game fowl four; and in the Bantam classes three, with the exception of Game Bantams, in which five prizes are offered.

"Among the extra prizes are—Three guineas, given by Mr. Robert Chase, for the best White Cochins cock, exceeding one year old; three guineas, by the Rev. F. Taylor, for the best White Cochins cock, hatched in 1866, and a like sum for the best pair of pullets; five guineas, by Messrs. Martin Billing and Son, for Game cocks; and five guineas, by Mr. G. F. Greenall, for the best pen of Game hens or pullets.

"In the prizes for Pigeons, separate classes have been provided for Dun Carrier cocks and hens; and also for Swallows."

ROUGH NOTES ON ERRORS AND OMISSIONS IN THE POULTRY CLUB'S "STANDARD OF EXCELLENCE."

THE following notes are by "NEWMARKET," an old amateur, and where points are not named they are the same as in the "Standard of Excellence":—

GAME FOWLS.—General Shape: Cock.—Legs, rather slender than at all clumsy. Beak, long and sharp, as well as strong and curved. Head, sharp and not thin (a better expression). Neck, long, sooner than rather long, and strong. Back, short decidedly, and not rather short, a short body and back being the first and chief quality. Breast, broad and very hard, not too round or full. Wings, neither too long nor too short. (Bantams carry their wings too long and too low, and Malays too short and high. Game should be intermediate between the two.) Tail, neither too long nor too short, and carried upright and erect, which shows spirit, as the drooping tail shows a drooping spirit; tail well fanned, and the sickle feathers with a full curve well rounded. Thighs, short, and not rather short, very muscular, and placed well and wide apart. (4 inches extreme length.) Legs, neither too long nor too short, and placed well and wide apart for the bird to carry a good heel, and to make him stand firm on his legs as well. Body in hand, short and very hard all over; a curved back, if a straight curve, and not humped or one-sided, shows fierceness. Crooked breast and duck-footed are great defects of course. Carriage, as in "Standard," and fierce, sharp, and fiery.

General Shape: Hen.—Legs, more slender than clumsy. Back, decidedly short, and not moderately long, as in

"Standard," as being much more spirited and "gamer." Breast, broad and hard, as in the cock. Thighs, short. Legs, neither too long nor too short, but rather shorter than the cock's in proportion, as all hens should be. Hens, "spurred" if real first-rate Game hens.

Cock's weight from 4½ lbs. to 5½ lbs. for exhibition. Hen just one-third smaller or lighter than the cock, or from 3 lbs. to 3½ lbs. Latter weight the best.

NOTE.—Game fowls that are in the least long-bodied are slow and spiritless, and cannot maintain a long battle, or stand close up in their battle, and are, therefore, worthless birds invariably.

BLACK-BREADED RED GAME.—Cock:—General colour a rich bright red, and not a dark red as in "Standard," bright red birds being both more spirited and also more common than either too dark or too light birds in general. Eyes, red, and never "bay" at all. A red eye shows much more blood than a bay eye, the bay eye being the half-bred colour as a rule. Some have the yellow or daw eye, but this is inferior, and the "bay eye" is a cross between the red and yellow eyes. Hackle, striped underneath, and not clear as in "Standard," as the clear-hackled cocks breed the Cinnamon hens, and not the prize Partridge-coloured stripe-hackled hen, which matches with the striped-hackled cock of course. Wing-buts, dark not black. Wing with a steel-blue bar, and not a green bar, as in "Standard." Tail, dark greenish black. Breast, dark bluish black, not greenish. Legs, willow, first for exhibition; white and carp brown for courage and spirit; yellow for bright plumage if red-eyed; blue legs rather inferior.

Hen.—Rich red partridge brown. Hackle, golden reddish with dark stripes. Breast and thighs of a red fawn colour, rest as for the cock and in the "Standard."

BROWN RED GAME.—Colour of Cock:—General colour a rich dark brownish red; comb and face, inclining to dark purple or gipsy, and never quite red, but redder than the hen's. Eyes, very dark, blackish brown or black. Neck hackle, dark brown red thickly striped with black. Crimson is nowhere visible; crimson, being a bright blood red, is quite a wrong term, especially for Brown Reds. Shoulders of wings often bright orange red, but more generally of a rich brown red maroon colour. Wings with green bar (contrary to the Black Reds). Tail, dark greenish black. Breast always of an entire red brown colour without any black at all, these being more spirited cocks and of the pure breed. Thighs as the breast. Legs, dark blackish brown or bronzy black. Dark willow not so good, being yellow-skinned. White-skinned birds best.

Hen.—General colour dark brown, blackish, but not black. Comb and face, dark gipsy purple and never red. Hackle, golden coppery dark red. Rest of points as the cock's.

Brown Reds are less red than Black-breasted Reds, and less handsome-coloured, but are superior in shape and carriage to all.

GAME BANTAMS—RAYNOR'S STRAIN.

UNDER this heading the Rev. W. J. Mellor, of Colwick Rectory, Nottingham, has thought it necessary to make a remark in your last Number, which seems to imply a reservation or unfairness in my statement, that I had purchased the whole of the Rev. George Raynor's stock.

I have a letter dated the 7th of August, from Mr. Raynor, accepting me as the purchaser of his whole stock—namely, seventy-two chickens and eleven adults, including one Pheasant. Not caring to keep the adult birds, and being willing to part with some of the chickens, I saw him on the 10th of August, and agreed that he should send away birds in answer to certain applications which he had received. I arranged also, to send my man for the stock on the 14th. Subsequently Mr. Raynor sold another bird for me, and this I had to send back to him. Having a complete reliance in Mr. Raynor, and caring but little with which of the adult birds I parted, I took no particular note of them. I knew that the Manchester cock bird had not been sent to me, but I was under the impression that I had the only surviving hen of the Manchester cup pen, a bird from my own strain, with one that he had bought from Mr. Smith, of Hull, to replace the lost one. This was a mistake, which Mr. Raynor removes in a letter I have this day received from him. He says—"I ought to have informed you which pen of adults had been selected, but this I omitted to do, hence the mistake, which I have explained to Mr. Mellor."

In answer to a letter from Mr. Mellor, I also explained to him the matter as far as I could, and I gave him leave to

publish any statement that might be of advantage to him, if he did not compromise me. The tone of his communication to you affects my veracity.—GEORGE MANNING, *Springfield, Essex.*

POULTRY PROTECTION SOCIETY—SELLING CLASSES.

THE Woodbridge Exhibition appears to have made many exhibitors very angry, and with reason too, I do not doubt, but I am bound to say that my own prize money was paid me about a fortnight or three weeks ago, officially, as it appeared to me, by some agent who had the winding-up of the matter in his hands, and I was in hopes that all the other exhibitors had been equally fortunate. A Poultry Protection Society should take up exhibitions of which the authorities do not fulfil their promises, railways that delay or injure specimens, the class who obtain birds and eggs under false pretences, and the opposite class who sell them. Could such a Protection Society be started, it would be a boon, and I do not doubt that the generality of exhibitors would become members. Much as it may be desirable, I fear there are many difficulties. One is the extended area over which the Society would have to operate. This, perhaps, might be modified as to the amount of expenses, by putting the case of any show in the hands of some lawyer in the town where the show was held, the expenses of such prosecution being paid by the Society. As regards many of the "sharps," they have neither local habitation nor name, and there are great difficulties in the way of bringing them to account. I advise persons to buy only of well-known names, and to part with birds only on receipt of cash to strangers, and even to some known exhibitors. I have had no trouble since I adopted this plan, and have never had any serious complaint. We know well that we do not all see alike, and that the position of buyer and seller alters, perhaps, the appearance of the selling article; but with honest open-dealing and description I consider this the best plan. When birds are charged at a high price, say upwards of £2 each, the buyer certainly ought to have the option of returning them after payment of railway carriage, although it is well known that birds are not improved by railway travelling.

It is many months ago, in the very earliest days of "selling classes," that I questioned in your pages whether they would fulfil the desired object. I recollect I said at the time that I did not think they would; that if schedule framers made a law to prevent owners buying the birds, it was so easy to get friends to buy. I know not whether any special law was made against this practice at Halifax, but if not, the words applied by "AN EXHIBITOR," at page 192, are rather strong. I plead guilty to have done the same thing, certainly not with a dishonest intention. I communicated with the Secretary first, who replied that there was no objection to the course, and accordingly I took a prize, and claimed my own birds. On a second occasion I did the same. The Secretary forgot to mark them, the Judge awarded them a first prize, and claimed them himself. I was one of the earliest in the show, and saw my birds ticketed as sold to Mr. —. I sought the Secretary, and had the matter put right; the Judge, who had not left, received back his money; but no one suggested that I had acted dishonestly. I had, in fact, taken the Secretary's advice first.

But to examine this matter further. Whatever was the object intended in the first introduction of these classes, and I presume it was the hope that purchasers might obtain first-class birds at a very moderate price, I do not think the object has been gained. One reason, I humbly conceive to be, that the amount at which they must be offered is, as a rule, too small for first-class birds. Be this as it may, whilst the selling-class pens fill as they often do now—twenty or thirty competitors—secretaries of shows will not cut these classes out; they pay for the prizes, and leave a handsome balance; they add, again, to the coffers of the show by the ten per cent. on all sales, which even the owner has to pay; and so, unless the exhibitor is made to sign a paper that he will not either by himself or otherwise purchase his pens, I do not see that it can be called a "dishonest procedure." I should be very much disposed to say, from the names that I have seen in these classes, that the practice is largely carried on. I cannot otherwise understand some of our best breeders parting with birds which may produce first-rate progeny, for the paltry sum at which they must be entered for sale in these classes. Railway charges, entrance fee, hamper, and ten per cent. on all sales, would in the great majority of cases leave a small remainder

out of 10s. I cannot but think that if any such law is to be stringently enforced, the amount at which they may be sold must be increased, or the class will, as "AN EXHIBITOR" says, "dwindle out of sight," but it will be for another reason than dishonesty.—Y. B. A. Z.

LIGHT BRAHMA PRIZES AT THE BIRMINGHAM SHOW.

I HAVE just received a schedule of prizes to be offered at the above Show, and it appears to me that the number of prizes offered is far too small, there being only two classes, and only two prizes in each class. Dark Brahmas have better prizes offered, why I cannot tell, as the Light surely are the more handsome! I notice amongst others that Black Game have four classes. Now, I think that there will be twice as many entries for Light Brahmas as Black Game, and yet the latter have four classes to the former's two. I do not write this from prejudice, as I am a breeder of both varieties, but I always look upon my Light Brahmas as deservedly the most popular. Will any Light Brahma fanciers assist me in increasing the number of prizes offered for our pets? If so, a letter to my signature under cover to the Editors, will receive my attention.—REPAUDWENKIS.

POULTRY SHOWS WITHOUT PROTECTION.

I HAVE read the letter of Mr. Hewitt in your last week's Number with great interest, as I hope it may draw public attention to the sad results of exposing valuable birds at shows to all the chances of fair or foul weather without any kind of protection.

I have been myself of late a considerable sufferer from this want of care on the part of a poultry show committee, having already lost one of a pair of Short-faced Tumblers, that an outlay of £3 or £4 will not replace, and I have very little hope of the recovery of four or five other most valuable Pigeons sent to the same show. All of them were returned to me as thoroughly wet through as they could have been had they been actually drowned. It is, then, surely quite time that the exhibitors of birds of so much money value, and which are so very difficult to replace, should combine to prevent these abuses for the future, and I hope, as the subject is fairly before the public, that some general rule may be suggested that will prevent their repetition.—H. YARDLEY, Market Hall, Birmingham.

CAMBRIDGE POULTRY SHOW.

THE second Exhibition of poultry and Pigeons in connection with the Cambridgeshire and Isle of Ely Agricultural Society was held on Friday, the 7th inst., at Cambridge. The number of entries showed a considerable increase upon the previous year; and the quality of many of the fowls exhibited was very excellent. The *Turkeys* of Mr. Wm. Wright, of Fulbourn, the *Cree Crows* of the Hon. T. Fitzwilliam, and the *Dorkings* of Mr. Henry Lingwood, elicited great praise. The Rev. F. Tearle's pen of White *Bantams* was of great excellence, and was speedily claimed. The prize pens of Rouen and Aylesbury *Ducks* were extremely good, as were also a duck and drake of the latter breed, exhibited as extra poultry by the Rev. C. Crosse.

In the *Pigeon* class the *Pouters* of Mr. R. Fulton were something wonderful; and the Almond Tumblers exhibited by Mr. G. Chapman, of Cambridge, the result of fifteen years of careful breeding, were the best we ever saw. Mrs. Hall's pen of Runts consisted of very fine birds.

The poultry was a great attraction to both ladies and gentlemen, and the Show was certainly a decided success. The Judge, Mr. Monsey, of Norwich, exercised great care in his selections. The following is the list of prizetakers:—

SPANISH.—First, Mrs. G. S. Hall, Ely. Second, G. Chapman, Cambridge.
DORKINGS (Coloured).—First and Second, H. Lingwood. Highly Commended, Hon. T. W. Fitzwilliam, Wentworth Woodhouse, Rotherham.
CHICKENS.—Prize, Hon. T. W. Fitzwilliam.
DORKINGS (White).—First and Second, H. Lingwood. Highly Commended, Mrs. G. S. Hall.
DORKINGS (Any variety).—First, H. Lingwood. Second, Mrs. G. S. Hall.
COCHIN-CHINA.—First, H. Lingwood. Second, C. Witlesey, Willingham.
GAME.—First, F. R. Hall, Cambridge. Second, Hon. T. W. Fitzwilliam. Highly Commended, W. Freeman, Cambridge.
HAMBURGERS (Gold-pencilled).—First, Hon. T. W. Fitzwilliam. Second, E. Berry, Sutton. Highly Commended, H. J. Carter, Dutton; C. Havers, Ingtestone.
HAMBURGERS (Gold-spangled).—Prize, E. Berry.
HAMBURGERS (Silver-spangled).—First, C. Bamford. Second and Highly Commended, Rev. F. Tearle.
BANTAMS (Game).—First, Hon. T. W. Fitzwilliam. Second, Mrs. G. S. Hall. Highly Commended, H. Thurnall.
BANTAMS (Any variety).—First, Rev. F. Tearle. Second, Mrs. G. S. Hall. Commended, Rev. F. Tearle.

ANY OTHER VARIETY.—First, Hon. T. W. Fitzwilliam. Second, E. Shearman, Chelmsford. Highly Commended, C. Bamford.
DUCKS (White Aylesbury).—First, C. Bamford. Second, Mrs. G. S. Hall. Highly Commended, Hon. T. W. Fitzwilliam.
DUCKS (Rouen).—First, Mrs. G. S. Hall. Second, H. Thurnall. Highly Commended, Rev. W. Smith, Dry Drayton.
GESE.—Prize, C. Bamford.
TURKEYS.—First, W. Wright, Fulbourn. Second, C. Bamford.
EXTRA.—Highly Commended, H. Hurrell, Newton (East Indian Ducks); W. Freeman.
PIGEONS.—Carriers.—First, R. Fulton. Second, H. W. Hale, Crofton.
POUTERS.—First and Second, R. Fulton. Highly Commended, Mrs. G. S. Hall. Tumblers.—First and Second, G. Chapman. Highly Commended, R. Fulton. Commended, J. Dyer. *Pantall.*—First, Mrs. G. S. Hall. Second and Highly Commended, C. Punched. *Any other variety.*—First, Mrs. G. S. Hall. Highly Commended, C. Bamford; J. Dyer.

BARNESLEY POULTRY SHOW.

THE first show of poultry was held on the 4th inst. in connection with the Horticultural Exhibition, and, although the day was unfavourable, proved a great success. The entries were numerous. The classes, with two exceptions, were well filled, and the quality of the winning birds left nothing to be desired.

GAME COCK (Any colour).—First, G. Hellewell, Sheffield. Second and Third, R. Paahley, Worksop.
GAME (Black-breasted and other Reds).—First, R. Paahley. Second, W. J. Cope, Barnesley.
GAME (Any other variety).—First, G. Hellewell (Duckwings). Second, W. J. Cope (Duckwings).
SPANISH.—First and Second, Burch & Boulter, Sheffield. Third, W. Harvey, Sheffield.
DORKINGS.—First and Third, W. Dransfield, Penistone. Second, W. Harvey.
COCHIN-CHINA (Buff).—First, W. Harvey. Second, W. Wood, Sheffield. Third, C. Harvey, Barnesley.
COCHIN-CHINA (Any other colour).—First, J. Heeley, Hepworth (White). Second, H. Rhodes, Barnesley (Partridge). Third, T. Richardson, Barnesley (White).
HAMBURGERS (Gold-spangled).—First, S. & R. Ashton, Mottram. Second, W. Harvey. Third, C. Harvey.
HAMBURGERS (Silver-spangled).—First, W. Harvey. Second, withheld. Third, G. Hellewell.
HAMBURGERS (Gold-pencilled).—First, Messrs. Burch & Boulter. Second, W. Harvey.
HAMBURGERS (Silver-pencilled).—Prize, G. Hellewell.
POLAND.—Prize, W. Harvey.
ANY OTHER VARIETY.—First, W. Harvey (Brahmas). Second, J. Heeley (Silkies). Third, Mrs. Newman, Worsbro' Parsonage, near Barnesley.
BANTAMS (Game).—First, G. Hellewell. Second, H. Pigott, Barnesley. Third, A. Senior, Kirkburton.
BANTAMS (Any other variety).—First, S. & R. Ashton (Silver Sebright). Second, W. J. Cope (Pekin). Third, W. Harvey (Japanese).
GESE.—First, Mrs. Theakstone, Walton, near Wakefield. Second, E. Mount, Barnesley. Third, W. Watson, Brierley.
DUCKS (Aylesbury).—First, E. Leech, Roohdale. Second, J. Wilkinson, Great Houghton.
DUCKS (Any other variety).—First, Mrs. Theakstone. Second, W. Green, Penistone. Third, Miss Hall, Worsbro'.
TURKEYS.—First, W. Harvey. Second, T. Richardson.
The Judge was Mr. Thos. Challoner.

CROOK AGRICULTURAL SOCIETY'S POULTRY SHOW.

THE fourth annual meeting of the above Society was held at Crook, on Wednesday, the 12th inst. The Show was a decided improvement upon that of any previous year, both as regards the number of entries and the quality of the birds shown. This was no doubt owing to the Society's providing the pens, increasing the prize money, and having separate classes for old and young birds. No doubt the Show might be further improved were it previously advertised. The various classes contained some really good birds, particularly the *Spanish*, *Dorking*, *Game*, *Hamburgers*, and *Bantams*. The Golden-spangled and Silver-pencilled were the best among the Hamburgers, and the Black Reds in the Game classes. The *Pigeons* were a very nice lot of birds.

John Shorthose, Esq., of Newcastle, officiated as Judge. The following is a list of his awards:—

GAME (Black-breasted or other Reds).—First, H. S. Stobart. Second, H. Piskering, Tow Law. *Chickens.*—First and Second, H. S. Stobart.
GAME (Duckwinged or other Greys).—First, G. Braithwaite, Tow Law. Second, J. Armery, Gibbet Hill. *Chickens.*—First, withheld. Second, T. V. Johnson.
SPANISH.—First, J. Sanderson. Second, J. Armery. *Chickens.*—First, J. Graham. Second, J. Sanderson.
DORKING.—First, J. Graham. Second, D. Rutter, Hetton. *Chickens.*—First and Second, J. Graham.
POLAND.—First, T. Roddam, Fence Houses. Second, J. Collinson, Frosterley. *Chickens.*—First, J. Collinson. Second, W. Newton.
COCHIN-CHINA.—First, H. S. Stobart. Second, G. H. Procter, Durham. *Chickens.*—First and Second, G. H. Procter.
HAMBURGERS (Golden-pencilled).—First, J. Wilson, Indhoe. Second, M. Ridley, Peak Field, Frosterley. *Chickens.*—First and Second, W. Robinson, Crook.
HAMBURGERS (Silver-pencilled).—First, W. Lawrenson, Eaglescliffe. Yarm. Second, J. Wilson. *Chickens.*—First, J. Wilson. Second, W. Lawrenson.

HAMBURGERS (Silver-spangled).—First, D. Rutter. Second, J. Collinson. *Chickens*.—First, J. T. Bollhope. Second, T. V. Johnson.

HAMBURGERS (Golden-spangled).—First, J. Potts, Bannisdale. Second, W. Whitfield, Hutton. *Chickens*.—First, J. Armory. Second, T. Dobson, Wolsingham.

BANTAM (Any colour).—First, W. Lawrenson (Black Red). Second, J. Wilson (Duckwing). *Chickens*.—First, W. Lawrenson (Duckwing). Second, J. Collinson (Black Red).

TURKEYS.—Prize, J. Sanderson, Bradley Hall.

GESE.—Prize, T. V. Johnson, Frosterley.

DUCKS (Aylesbury).—First, J. Fryer, Crook. Second, H. S. Stobart, Wotton Tower.

DUCKS (Rouen).—First, H. S. Stobart. Second, Miss Coates, St. Helen's.

DUCKS (Any other breed).—First, Miss Lang, Houghton-le-Side. Second, W. Newton, Wolsingham.

Pigeons.—First and Second, A. Bugless, Carville. Highly Commended, J. Proud, South Shield, Tow Law; J. Armory; W. Whitfield.

BEE MANAGEMENT.

Will you be good enough to tell me whether I have acted properly in regard to what I have done in my apiary?

A B C D E F G H

The above letters represent the position of eight bee-hives. A, B, C were swarms of the present year. E, F were stocks of three or four years standing. F being somewhat weak, I drove out the bees three or four weeks ago and joined them to E, making it very strong. As F had swarmed some three weeks previously there was no brood in it, but as nearly as I could judge some 15 lbs. of honey. About a week ago I drove A, B, C, and put the united families into F, making it occupy the place of B. Is the stock so formed likely to do well without further trouble?

Another question I wish to ask is this—In "Bee-Keeping for the Many," as well as other works which I have consulted, I find it said, that at the end of the season stocks should be so made up by feeding, if necessary, as to weigh from 20 to 25 lbs. Now, I have stocks weighing from 40 to 45 lbs. or even more, one weighs 50 lbs., but being in common straw hives I cannot take any honey from them. Is it, therefore, any detriment to the bees that the weight should be so much more than that which bee-books mention as the proper weight? In fact, may the stock hives be of any weight whatever provided they do not fall below 20 or 25 lbs.?

Another question is the following:—H is a Woodbury frame hive full of bees and very heavy, but I find on inspection that more than half of each comb is filled with brood and pollen. Could I without injuring the stock cut off from the tops of three or four combs such honey as is pure? It was a swarm of the present year?

May I also inform you of a remedy which I have found serviceable to prevent the swelling which frequently arises after a sting from a bee? The bee-keeper must expect an occasional sting notwithstanding every precaution, and in my case and that of each member of my family, the subsequent swelling, especially if it occurs on the face, is extremely inconvenient, not subsiding for two or three days. No remedy that I have ever seen recommended is a certain preservative against this. The plan which I suggest is, that the place stung should immediately be punctured with a needle sufficiently deep to draw blood, and that such puncture should be repeated, if necessary, so that blood may continue to flow for half an hour or so. If this course is adopted the poison seems to be so entirely drawn away that there is really no swelling to cause one any inconvenience whatever. I confidently affirm that the slight pain caused by the puncture is far preferable to the inconvenient disfigurement which usually results from the sting of an enraged bee.

I have been rather wishing to take to poultry-keeping, but am somewhat discouraged by the dishonesty which I find so frequently complained of in your pages. When I read of such tricks as boiling eggs before sending them to parties purchasing, painting fowls' legs, and withholding prizes from the prizetakers; when I find that almost every Number contains the complaint of some aggrieved or victimised poultry fancier, I cannot help thinking that my best plan is to do nothing which might expose me to the machinations of such unprincipled scoundrels. I cannot, therefore, help congratulating myself on having taken to bees rather than to fowls.—CHARLES H. CARTWRIGHT, Field Broughton, near Cartmel, Lancashire.

[The three united families domiciled in F, are likely to do well if fed up to a sufficient weight to stand the winter by the end of next month (October). 20 to 25 lbs. is named as

the minimum weight, which may be exceeded to any extent consistent with leaving a sufficient number of brood-cells free to permit of the queen replenishing the waning population early in the spring. It would do the stock in the Woodbury hive less harm to remove the two side combs altogether than to mutilate three or four combs in the way you propose.]

MANAGEMENT OF BEES.

DR. PLOT, speaking of the management of bees in this county (Stafford), says:—"At the worshipful John Whitehall, of Pipe Ridware, Esq., who is a most intelligent bee-master, I was shown great variety of hives, most of his own contrivance; some being made square, others round, both placed over one another with drawers of wood between, like the colony hives in Oxfordshire. Others he had made out of hollow trees, which were sawn asunder at proper distances, which, no doubt, are as agreeable as any kind whatever, these being the first natural hives for bees before they were brought under an artificial regimen; and therefore it was, no doubt, that both Columella and Palladius commended them for this purpose. '*Ligno arboris fabricentur*'—let the hives be made of hollow trees, say both these grave authors in their chapters on bee-houses; and Virgil tells us they delight to live *exeseque arboris antro*. But the hives he preferred before all the others he made of brick, there being several stalls or galleries of them divided into squares of brick on three sides, with windows behind and before to see their working, the fore south windows in summer being covered with malt to preserve the honey. Within these squares of brick he sets his frames of wood for the bees to work on, which he can take away as the bees work downward. He makes use, notwithstanding, both of straw and wicker hives covered with cowdung and lime, but neither of them made after the ordinary manner—viz., not conical at top, but cylindrical and open at top and bottom, which he places first on the top of the brickwork, and underneath again to receive the bees at last, so as to be conveyed again to the top of the brickwork as at first; of which brick hives he has some single, others many together, but the single he counts best because the most manageable."

Perhaps some of your numerous correspondents may be able to give us further particulars of this Staffordshire bee-master's operations.—G. L.

[The "frames of wood" herein adverted to were most probably horizontal frames, or more properly speaking, square boxes, of which the uppermost were removed as the bees worked downwards after the manner advocated by Wildman.]

UNWELCOME VISITORS.

SOME five or six years ago my apiary was reduced to two hives, a Nutt's collateral, and a swarm from it, taken in a straw hive fitted with window and flat top for super. The bees appeared to be flourishing, and I left them alone, having other things to think of.

On looking at them one day towards the end of the season, I was surprised by an unusual stillness. I opened the window-shutter of the straw hive, and, to my dismay, perceived a monstrous slug reaching right across the window. If I had seen an elephant on my lawn some morning I should hardly have been more astonished or perplexed. However, it was easy to see how to remove it, although how it found its way in is to this day a mystery. Fortunately the window was in a wooden frame of my own construction, and was easily removed; the intruder being seized, and slaughtered without mercy. He was of aldermanic proportions, and if ever slug soup could be good it should be of such honey-fatted slugs; for he had eaten bees, comb, honey, and all. A few survivors were huddled in the corner of the comb, which they had broken open like drunken sailors in the spirit-room of a sinking ship, or like the companions of Ulysses waiting for Polyphemus to eat them. This hive was utterly ruined, there being neither queen nor brood-cell left.

I now began to watch the other hive—Nutt's collateral. I soon found something wrong there; but it was not so easy to get a correct view of the inside. However, the end of it was that a similar monster was at length discovered, but not until he had wrought the like havoc as the first. So I lost my whole stock. These slugs must have measured little, if anything,

less than 6 inches in length, and were of more than proportionate girth, of a mottled brown colour, and very firm substance.

But how did they get in? In their full-grown proportions it was impossible. When very young and very small they might have entered by the bee-hole, if they had dared; but how came the inhabitants to allow their presence? And what faith are we to put in the stories that bees not only kill such intruders, but also bury them in wax or propolis? The front door to each hive was about one-sixth part of an inch in height, and 4 inches wide, and there was no other way by which the intruders could possibly have gained for themselves an entrance. Of course they might have been put in by some mischievous person; but this seems unlikely.

Since that I have met with many disappointments; but have now increased my stock to seven hives, and have never hitherto been troubled with slugs again. Can any of your readers remember to have seen a like occurrence?—HAMPSHIRE RECTOR.

[These slugs, doubtless, found an entrance in the usual way—viz., by the front door, albeit they probably slipped in without knocking. We fancy that if you measure the height of the doorway of your hives you will find it really more than you imagine, since a worker bee, to say nothing of drones, could scarcely force itself through an aperture only one-sixth of an inch in width. We have often discovered slugs in weak hives, but never once found them embalmed in propolis in what we have been taught to consider the orthodox manner. They are, doubtless, an annoyance and an injury to the bees; but we look upon their presence as partaking more of the nature of an effect than of a cause, believing that the stocks must have been previously dwindling, and that even if a slug found its way into a strong hive it would be powerless to inflict such fatal injury as you describe.]

EXTRA PRIZES FOR PARTRIDGE COCHINS AT BIRMINGHAM.—It appears that the breeders of Partridge Cochins are determined that their favourites shall not be placed behind the Buffs in the prize list. They have, therefore, proposed to get up extra prizes on the same conditions as those suggested by Mr. Tomlinson for Buff Cochins. The following have already given in their names—Mr. Tudman, Whitechurch, and Mr. Stretch, Ormskirk. Subscriptions to be sent to Mr. Lythall, Birmingham.

OUR LETTER BOX.

SPANISH COCK'S FACE RED (M. F. B.).—The white face of a Spanish cock is a white bag containing a red one. It is very liable to injury from the hens, as they sometimes peck it, and we have known a strip of it torn from top to bottom by fighting or accident. In either case it has always healed perfectly, leaving a mark and scar, but never a red one. It generally turns almost black, then as it heals it turns brown, becoming lighter day by day till it is healed. As this is the moulting time of year, when Spanish faces shrivel and become shabby, so have they a tendency to become red. Many birds that have red about their faces will be perfectly white for the winter shows. Our experience of this breed induces us to believe it will be so with yours, and that the bird will not be spoiled.

COMMENCING POULTRY-KEEPING—KEEPING A BREED PURE (Mechanic).—You have an excellent run. If, however, the fowl-house is to be in the yard, you must not allow the flooring of it to be paved either with brick or stone, nor must it be floored with wood. As you may not like to take up the paving, you may adopt a safe and middle course by covering it 6 or more inches deep with dry gravel or grit. We should be better able to answer your question if you told us what you require of your fowls—whether to keep them principally for eggs, or to have them for all purposes. If for eggs, Spanish, La Flèche, Grève Cœur, all great layers, but non-sitters; if very hardy birds, Cochins or Brahmas; if the best table fowls, Dorkings. Game are hardy, cheerful, and handsome, but their pugnacity is sometimes very troublesome. If you want birds for feather, have Polands and Hamburgs; but these do not sit. Your hen has a cold, and requires a little attention lest it become roup. Give her some bread steeped in strong beer. If others have the same right over the piece of waste land that you have, and if they keep fowls, there is no way of keeping the breed pure unless all parties agree to turn out only hens, and to keep the cocks confined to their premises. In these days when, with few exceptions, all keep pure fowls, and take pains with the breed and strain, such an arrangement should be sufficiently acceptable to induce all to observe it strictly and gladly. It is quite sufficient for the cock to be with the hens for a short time before roosting, and for the time between sunrise and turning out. If this cannot be carried out, and others keep fowls, we are afraid that part only of your eggs will be true to the breed you keep.

SPANISH FOWLS (H. H.).—Although your description is that of very good Spanish pullets, we do not believe they are pure. No pure-bred Spanish sits. It is not unusual for cocks of this breed to lose their tails for some months. They are bad moulters, and seem to replace lost feathers with difficulty. The nakedness is probably caused by the hens. They pick off the feathers. Supply them with sods of growing grass.

DUMPIES (H. G. E.).—We know of no Dumpies, but they are to be had at the dealers'. They are generally, if good specimens, worth from 30s. to 40s. each. We saw some near Dumoon recently.

FOWLS PLUCKING FEATHERS (Constant Subscriber).—When fowls pick out and eat each other's feathers, it is a certain sign their stomachs are out of order. Either they have had too much stimulating food or they have not had enough of green meat, such as lettuce. The habit will give you some trouble, as so long as the naked flesh is seen they will peck each other, and so long as it bleeds they will eat it. Remove the most determined cannibals, and keep them away till all have finished moulting. Let your fowls have plenty of lettuce, and if they have no access to grass, let them have large heavy sods of growing grass cut with plenty of earth. They will eat it all. If this does not cure them, dose them well with castor oil. This will alter their habit.

IMPROVING COLOUR OF BANTAM COCK'S SADDLE (Bantam).—If you wish to import more colour into the saddle of a Duck-winged cock you can do it by means of a Black Red. If you wish to produce the remarkably rich maroon colour sometimes met with, you must obtain a bird possessing that property.

THORNE POULTRY SHOW.—A correspondent informs us that he had a pen of Pigeons (Owls) stolen at this Show, and that the Secretary sent him the price claimed for them. It is an example which ought to be followed by every Poultry Show Committee.

HARTINGS POULTRY SHOW.—Mr. Rust, and not Rush, took the third prize for Cochins-Chinas.

FOOD FOR FOWLS TO BE EXHIBITED.—"I.P.S." wishes to know the directions of the Sussex millers who have stones dressed for the purpose, by means of which they grind the whole of the oat so fine that it mixes smoothly, although nothing whatever is taken from it.

CAPONISING (A Subscriber).—It is so needless and so cruel a custom that we have never sought for information on the subject.

DIARRHŒA IN PIGEONS (M. E. B.).—Give them three or four pieces of whitening or chalk daily, each about the size of a pea, and feed them on old beans until the diarrhœa ceases.

BOOK ON RABBITS (Rustic).—You can have "The Rabbit Book" free by post from our office if you enclose seven postage stamps with your address.

BEES FIGHTING (J. C. A.).—The bees were separated before they reached us, being, moreover, much crushed in their transit through the post. Hostile bees grapple one another with such tenacity, that when in the extreme case of a regicidal attack we have decollated a would-be regicide, we have still had considerable difficulty in releasing the unfortunate queen from the incumbrance of the severed head, the mandibles of which still held her in their vice-like grip. Your two stocks appear to be too close together, and the skirmishes you describe arise most probably from bees alighting by mistake at the wrong entrance. We know of no English work on bees which meets your requirements. Mr. Langstroth's book, or the last edition of Mr. Quinby's, both published in New York, but obtainable through any English bookseller, will best answer your purpose; but you must make allowance for the difference in climate, &c., between England and America.

PREVENTING SWARMING (J. P. F.).—We believe that no mode of managing bees can be relied on to entirely prevent swarming. Giving ample room in due season, with efficient ventilation during hot weather, will sometimes, but not always, attain the desired end. You do not state the actual size of the "roomy" glass on the hive, the bees of which hung out without swarming, but we doubt if it were really sufficiently large, and to this cause, combined with excessive heat, we should be disposed to attribute their idling outside the hive instead of working. Efficient shade and ventilation are the best remedies for such a state of things. A weak stock will very frequently receive a reinforcement, such as you describe, without opposition, whether proffered by daylight or at dusk. Your plundered stock had very probably become queenless before the final assault took place.

SPACE BETWEEN A HIVE AND ITS COVER (J. R. Beyton).—An inch space between the hive and outer case is quite sufficient. We think you may safely appropriate the honey in the two outside combs.

ANTS—FEEDING—COVERING (G. J.).—We frequently discover ants on and about our feeding-bottles, but do not find them injure the bees. Your bees will want no more food this year, but you should examine them in the spring and form your opinion as to whether they require feeding, and if so, to what extent. When robbers are about, crown-boards should not be removed except in case of actual necessity, as their attacks excite the bees and render them very irritable. Worker-comb made by black bees will do equally well for Ligurians. As the combs of both varieties are absolutely identical, no difference whatever should be made in the distance between the bars. It is well to leave no more than three-eighths space between the bottom of the frames and the floor-board, but if an inch be left the bees are not likely to build combs there. The two-inch space between the covering and the hives may be advantageously filled up with dried grass, hay, straw, or any other non-conducting material.

APPLES FOR PIGS (G. G.).—Apples may be given with perfect safety to pigs. As to their not eating other food afterwards, we never found such a result. If they did so for a while, abstinence would soon restore their appetites.

POULTRY MARKET.—SEPTEMBER 17.

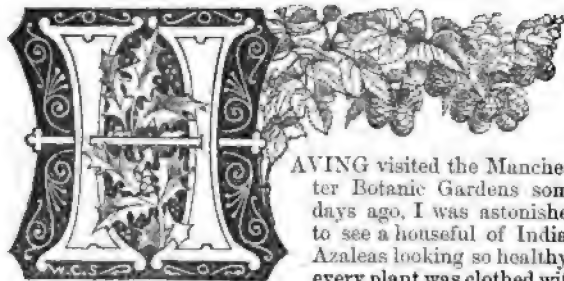
THERE is little or no trade, or demand for poultry. Grouse continue abundant, and Partridges are plentiful.

	s	d.	s	d.		s	d.	s	d.
Large Fowls.....	2	0	2	6	Partridges	1	4	1	6
Smaller do.	1	9	2	0	Grouse	1	9	2	0
Fowls	0	0	0	0	Hares	0	0	0	0
Chickens	1	3	1	8	Rabbits	1	4	1	5
Geese	6	0	6	6	Wild do.	0	8	0	9
Ducks	1	9	2	0	Pigeons	0	8	0	9

WEEKLY CALENDAR.

Day of Month	Day of Week	SEPT. 25—OCT 1, 1866.	Average Temperature near London.			Rain in last 39 years.	Sun Rises.		Sun Sets.	Moon Rises.		Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.		m.	h.		m.	h.				
25	Tu	<i>Kleinia articulata.</i>	65.8	48.5	54.7	19	52	af 5	51	af 5	26	af 6	44	af 6	268
26	W	<i>Kleinia nerifolia.</i>	65.4	44.1	54.7	19	54	5	49	5	57	6	1	8	269
27	Th	<i>Chironia linoides.</i>	65.3	45.0	55.1	22	55	5	47	5	55	7	20	9	270
28	F	<i>Adesmia viscosa.</i>	64.7	44.0	54.4	21	57	5	44	5	16	8	38	10	271
29	S	MICHAELMAS DAY.	65.4	44.3	54.8	24	59	5	42	5	6	9	46	11	272
30	SUN	18 SUNDAY AFTER TRINITY.	65.0	43.4	54.2	28	0	6	40	5	1	10	after.	21	273
1	M	<i>Arctotis decumbens.</i>	68.5	45.3	54.4	21	2	6	38	5	4	11	48	1	274

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 65.0°; and its night temperature 44.3°. The greatest heat was 82°, on the 26th, 1862; and the lowest cold 26°, on the 29th, 1863. The greatest fall of rain was 1.66 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

MANCHESTER BOTANIC GARDENS,
AND HORTICULTURAL SHOW OF 1867.

HAVING visited the Manchester Botanic Gardens some days ago, I was astonished to see a houseful of Indian Azaleas looking so healthy; every plant was clothed with

foliage of a beautiful dark green, and not a yellow leaf was to be seen, nor any signs of thrips. On asking Mr. Findlay what he had done to cause this vigorous state of health, he told me that he could attribute it to nothing else than to the use of Standen's "gardeners' and amateurs' friend." He then very kindly told me how and when he had applied it. As soon as the plants had ceased flowering, they were placed in a house where they could be subjected to a moist atmosphere. Most of them are growing in large Nos. 1 and 2 pots; a double handful of Standen's manure was put on the top of the soil, and spread evenly over it every time the plants were watered, and thus the manure was washed down amongst the roots. It has certainly produced a marvellous effect, for plants of such extraordinary vigour I have never seen; they were also splendidly set with bloom-buds, which promise to produce flowers remarkable both for size and substance. Mr. Findlay told me that a gardener in the neighbourhood had used Standen's manure for his Peaches, and that the trees had produced some very fine fruit. I have the more pleasure in making public mention of this manure, because I had in my own mind condemned it. Some time ago, a canister of this manure was sent for me to report on. After trying it in various ways I could not see that it had any beneficial effect on the plants experimented with. It may have been that the canister which I had was inferior in quality, but having seen the extraordinary results produced on Mr. Findlay's Azaleas, I am inclined to think the fault lay in my not knowing the proper mode of application. I certainly should have been afraid to have used it so extensively as Mr. Findlay did. However, I am now convinced of its efficacy, and have no hesitation in strongly recommending it as a valuable manure. It has this much in its favour, too, it is easily applied.

I was too late to see the bedding-out plants in the Botanic Gardens in good condition, but there had evidently been a very good display. All the arrangements appear to have been very judiciously made; for although the late rains had completely destroyed the flowers, one could easily see, from the kinds used, that when in their beauty they must have had a very pleasing effect. Some beds of Mrs. Pollock Pelargonium, edged with *Perilla nankinensis*, were still very beautiful. I should almost have been afraid to have used so strong a colour with Mrs.

Pollock Pelargonium as the *Perilla*; but it certainly looked well, and did not in any way spoil the effect of the beautiful foliage of Mrs. Pollock.

The following arrangement, I am sure, would look well, although I should not by any means have recommended it had I not seen Mrs. Pollock as above described. For a large bed, a three-feet centre of *Perilla nankinensis*; next it 2 feet of Mrs. Pollock, good plants; then 2 feet of *Iresine Herbstii*; a band, 18 inches wide, of *Viola cornuta*, and between it and the grass 1 foot of *Viola lutea* (Mr. Tyerman's variety).

Some large beds of *Gladiolus Brenchleyensis* were magnificent; the whole of the ground between them was covered with *Verbena venosa*, with an edging next the grass of *Saponaria calabrica*. This combination had a very charming effect. I also noticed some fine beds of Methven's *Crimson King Verbena*, edged with *Dactylis glomerata*. The *Verbena* was one mass of bloom. A large round bed was planted very effectively as follows:—Centre, Pelargonium Stella, which Mr. Findlay thinks the best of its colour amongst all the Nosegays; then 2 feet of Silver Nosegay, followed by a chain of *Christine*, and then by *Lobelia speciosa*; this filled up the intermediate lobes of the chain. The effect was very pleasing, but would no doubt have been very much improved had there been an edging of *Cerastium tomentosum* next the grass.

The beds above described formed part of a panel garden in front of the show-house. On the outside of this panel garden there is a walk forming half a circle, and beyond this a chain of beds running all the way round it; these were planted with large patches of Pelargonium Brilliant, *Calceolaria Aurea floribunda*, and *Perilla nankinensis*, with lobes of *Lobelia* running into and between the patches of Pelargonium, and on the outside next the grass was a good margin of *Cerastium tomentosum*. This arrangement must have been very beautiful, presenting to the eye a fine mass of colours well blended together.

After seeing *Viola cornuta* at Huntroyde, Mr. Findlay has been so fully persuaded of its usefulness that he intends to plant it in large quantities next year. The variety he has, and which he thought was the right one, is worthless; it is, therefore, very evident that all those who have expressed their dissatisfaction with it have been supplied with the wrong variety. Mr. Findlay says "the plant is evidently waterproof." Here we have scarcely had three hours of sunshine for the last three weeks, yet this *Viola* is almost as beautiful as ever; whilst everything else, with the exception of the fine-foliaged Pelargoniums, has "come to grief." Altogether I was very much pleased with my visit to the Manchester Botanic Gardens.

In conclusion, I will detail what I learned relative to the Horticultural Exhibition which is to be held in the Manchester Botanic Gardens in June, 1867. I had also an opportunity of seeing a proof of the schedule, which is on a very extensive scale, and many of the prizes are well worth competing for. There are several prizes of £20 offered for stove and greenhouse plants, Orchids, Roses, Pelargoniums, &c. There will also be a good inducement for some of our Azalea-growers. I considered the schedule

a very comprehensive one; all the prizes to be offered are well-proportioned, leaving no room for complaint; exhibitors should, therefore, be up and doing.

The idea of holding a National Horticultural Exhibition at Manchester next year first originated with Mr. Findlay, and its adoption has been brought about solely by his exertions. The announcement of the splendid balance in favour of the International suggested to Mr. Findlay the possibility of holding a similar exhibition at Manchester; with this end in view he at once set to work, and the results of his labours so far will show that the first part of the work he has so earnestly begun has been crowned with success. He called a meeting of the Manchester Botanic Society, and suggested the propriety of holding a National Exhibition in Manchester; and these gentlemen, after hearing the explanations Mr. Findlay had to lay before them as to the mode in which he intended to insure success without causing any further debt to be added to the heavy one which the Botanic Society already labours under, at once consented. Mr. Findlay's next step was to go round to the members of the Society, as well as many gentlemen not connected with it, to solicit their aid. All appeared to think, after hearing the matter explained, that there was a probability of the Show being successfully held. He had, therefore, very little difficulty in raising a guarantee fund of upwards of £2000; and as there will be no necessity for spending so much money in the erection of a monster tent like that in which the International Horticultural Show was held, there is every probability that the Exhibition will terminate successfully, even if half the amount taken at South Kensington should be realised. If Mr. Findlay's anticipations in this respect be verified (and I can see no reason why they should not be, when I take into consideration the central position of Manchester, its enormous wealth, and the immense population residing within a radius of forty miles, amounting to a much larger number, I believe, than is located in the same area round London), he hopes to be able to reduce the standing debt of the Society, and also to put aside a balance for the purpose of holding a similar exhibition annually.

Four large tents will be arranged in a group near the exhibition-house in the gardens. The exhibition-house is to form the centre of the group. In this house all the Orchids and tender plants will be exhibited, with little fear of their suffering any injury, as the house can be shut up close at night. A large tent, at the east end of the exhibition-house, will be set apart for Roses, Azaleas, Fuchsias, &c.; another, on the north side, for stove, greenhouse, and fine-foliaged plants; the tent on the south side for Ericas, Pelargoniums, cut Roses, &c.; and that at the west end of the building for fruit, hardy shrubs (for which I see there are several prizes offered), and miscellaneous plants. As the Lancashire people hold high carnival in Whitsun week, it is expected that large numbers of them will flock to the gardens to see the great National Show as soon as the shilling days are announced; and as it is thought that more may attend in one day than could be comfortably accommodated in the gardens, it is proposed to have two or three bands of music stationed in the large field on the south side in which the Art Treasures Exhibition was held in 1857, so that the people, after inspecting the Exhibition, may pass into the field and there enjoy themselves with dancing and various other amusements.

Mr. Findlay thinks it will be necessary, in order to make the Exhibition successful, to continue it for eight days, in which case the exhibitors will, of course, be remunerated for the extra expense and trouble they will be unavoidably put to in consequence. By making it an eight-days exhibition the people will all have an opportunity of seeing what Lancashire can do, and how much she can contribute towards the success of a grand horticultural show. I hope, therefore, all our exhibitors will enter freely into this pleasing contest, and that they will not object to an eight-days show. Any tender plant can easily be removed every evening after the Exhibition closes to the plant-houses in the gardens, where, I am sure, Mr. Findlay would have every care taken of them. The gardens are but a short distance from the Old Trafford station, so that little trouble or expense need be incurred in moving the plants.

When we consider that there has been no great exhibition of either paintings or plants in Manchester since 1857, this should inspire confidence in the belief that the proposed National Floral Fête will be crowned with success. That this may be the result must be the desire of every well-wisher of horticulture, and that Mr. Findlay's anticipations may be realised to the fullest extent is the sincere wish of—J. WILLS.

VINERY CONSTRUCTION.

ALLOW an old hand at Grape-growing to offer some remarks on the article headed as above in your Number of the 11th inst.; and if my opinions should seem to clash somewhat with those advanced in answer to the queries propounded, allow me to say in explanation that my experience in forcing very early Grapes has been acquired in the eastern and northern counties, whilst it is probable that the writer of the replies referred to may have gained his experience in the southern or western parts of the country, and if so, may not have learnt fully the drawbacks attending early Grape-growing in hipped or span-roofed houses. To be brief, then, let me advise your correspondent to avoid these forms, for in winter and early spring our "north-easters" will insinuate themselves rather too freely into such structures to be advantageous either to the tender foliage of the Vines or to the fuel bill. It is, therefore, preferable to adopt the lean-to for these reasons, as well as others—viz., a lean-to house absorbs and retains the slanting rays of the sun better than the other forms; but a wall 10 feet high would not be sufficient for a lean-to house for early forcing unless the width were much reduced from 18 feet, for "H. W." would not then obtain sufficient slope of roof to gather the sun's rays at the season of forcing. If 10 feet is the maximum height of his wall, he ought to reduce the width of his house (supposing it to have a wall in front to pitch the lights on, and to hold ventilators for giving front air), to 12 or 13 feet, and this width would give him a rafter of 14 or 15 feet in length, and would be ample for his purpose, as Vines subjected to winter forcing will not carry such a length of cane as those forced at a more natural season, nor can roofs of such a width as 20 or more feet be so readily covered, covering being, in my opinion, a *sine qua non* in the winter forcing of Grapes as well as many other things. Perhaps one of the best plans of effecting this for roofs not too large is to sew mats together, and to attach them to a roller at the top of the house until some better and more efficient plan shall be perfected. Does double glazing answer for winter work? Let some of our fruit exhibitors at the early shows say if they have tried it, and oblige many of their brother gardeners.

I agree with the reply as to making the border inside, and also arranging the pipes over the surface; if the roots are allowed to go outside, that part of the border should be covered with wooden shutters or hot litter.

I prefer planting in front, and at any period after the Vine has somewhat hardened its growth, even if the leaves should not have fallen; but be sure that the border is made of well-aired and tolerably dry material. A good plan is to keep the soil in a ridge for a short time, and turn it occasionally.—H.

[We assent, with some modification, to what you say as to the value of a lean-to for early work, and especially in northern districts. The lessening the width of the proposed house is well worthy the attention of the inquiring correspondent; but we believe that he lives in a southern county, and then, taking the proposed circumstances into consideration—a width of 18 feet, and as low a back wall as possible—we do think that the hipped roof would best meet the conditions. With such a length of rafter altogether, hip and southern slope, Vines could be planted at back as well as near the front, and thus do away with one of the objections. Of course it is quite clear that if the width of the house be reduced one-third it would be all fair sailing with the simple lean-to as "H." proposes, and we would direct to it the attention of the original inquirer.]

NOTES ON SOME OF THE CONTENTS OF OUR LAST NUMBER.

THE hardy Canna at Battersea is not *limbata*, but a tall sort allied to the Peruvian *Achiras*, which is the hardiest known Canna. The real *limbata* is one of the very hardiest of the tribe, and far superior to the other as regards blossom, but more tender. The whole of the Cannas of the shops are grievously misnamed.

Imported *Satyriums* will always flower. They are of no great beauty, though interesting. I have never flowered them twice, though I think I could. It would be satisfactory to learn if the plant exhibited in Ireland was flowered the second year.

To flower or fruit the *Eriobotrya* procure a grafted plant; almost all the nurserymen's plants are seedlings, and may not flower for a lifetime. Grafts of the fruiting sort might be had by Fellows from the Royal Horticultural Society's garden at Chiswick.

For seed, raise your Asters early, and forward them in pots. Keep some of them all the season in the greenhouse; plant out others. Guard especially against thrips; keep dry while in the last stage of ripening, using even the stove if you have one. With this treatment you will have such seed as you never had before.—C.

USES OF COCOA-NUT FIBRE REFUSE.

To "T.R.'s" list, which you published last week at page 215, you should add the following:—

11. For hiding summer mulchings when digging-in cannot be resorted to. It saves loss of power by evaporation, keeps down surface weeds, and gives a look of great neatness; and, moreover, where ladies gather flowers from the beds is invaluable for its cleanness, wet or dry. When the plants are removed it can, with advantage, be dug in with the mulching.

12. To cover the unsightliness of pit linings, where dung or litter is used. It also keeps in the heat of these.

13. To strew under the shelves of greenhouses, where it catches falling water, keeps up a gentle evaporating moisture for a considerable time, and promotes cleanliness, being so easily swept up and replaced.—D. S.

EARLY FORCING-HOUSE.

We are about to erect a forcing-house for growing early Cucumbers, Melons, forced Roses, Hyacinths, Strawberries, Kidney Beans, and, perhaps, a few Vines in pots. We start a vinery on the 1st of February; so you see it is principally mid-winter work.

There are a 10-foot south wall and a hipped roof, for economy of fuel and easy management; and I propose to sink the floor about 18 inches below the ground level for the same reason. The back bed to be over a hollow chamber for bottom heat to Cucumbers and Melons; the front one to be open trellis to set pots upon, as I shall want to grow a few fine-foliaged stove plants. The house is to be 12 feet wide. What angle of roof do you prefer? I should like the roof to be a fixture. I would have sliding boards in the front wall, and lights not to meet by about a foot at the ridge, and have a wooden flap or shutter to rise and fall by a crank. I propose four pipes, two on each side. Do you think they will be enough?—J. A.

[Your proposed plan of a hipped roof for your early forcing-house, Cucumbers, Melons, &c., will answer well, more especially if the back wall rises as high as the ridge of the hip, as that will be a protection from the north. As economy of fuel, however, is your chief object, we think you had better dispense with a hip altogether. By taking your sash-bar rafters right from beneath the coping of the wall at back to a wall plate in front, you will have as good a slope as if you raised the hip higher; and if you come down a foot or 15 inches lower in front, you will have pretty well as steep a slope, and there will be less trouble and expense in every way. Your front wall inside would then be from 4 to 4½ feet high, which would give you height enough for your path in the middle, and you could have ventilators in front as proposed, and either have a small ventilator from 9 to 12 inches wide along the top, or about six openings made in the back wall. With such an arrangement the bed in front would be sunk, so that the covering over the pipes would only be a couple of inches or so from them, and that, too, would be an advantage. A few small holes should open from the pathway into the chamber, that there may be a circulation of air there. Then we would make the front pit the Cucumber-pit—in fact, we would do so in any case. The back pit we would be inclined to cover over in the same way—the height from the pipes is less important—and chiefly that the bottoms of the pots may be kept more moist than if near the heating-pipes on spars. If this, too, were covered in and appropriated to plants, a few slides might be made in the side of the passage to let heat pass into the atmosphere of the house. Even that, however, would not be sufficient for such a house in midwinter, and for a high temperature then. You would require from 60 to 70 feet more piping in your 30-feet house, and the extra expense for piping would soon be paid in the saving of fuel, and you would always secure a sweet instead of a scorching heat. We would prefer this extra piping to be above the beds; but if the sight of the pipes is objectionable, then three pipes could go in each chamber, and the atmospheric temperature might be regulated by slides in the pathway.

Such a house as that described would be very useful for the general purposes you mention. Most people like their own plans best, and, therefore, we will say that the proposed roof, No. 2, will be the best for your purpose, and your proposed double ridge with the ventilator between will answer very well. Even then, however, we would use the front bed for early Cucumbers; the back one would come in for succession crops, and the beds could be changed from plants to Cucumbers, as desirable. Means must be taken for securing moisture in the atmosphere. See "H." on vineries, published to-day.]

ORCHARD-HOUSE CULTURE.

FAR be it from me to take amiss the good-humoured raillery, published at page 181, of your correspondent "S. B." He is evidently a bit of a satirist, and if I wished to retort in a kindred vein I might just hint, in the most delicate manner in the world (as Mr. Chucks would say), that the same absence of sun which he deplores as having rendered "his fruit poor in flavour and sadly deficient in sweetness," had produced a similar effect upon his criticism; but that would sound snappish, and I do not really deem him a sour critic, and even if I did, that would be no more reason for my biting than it would be to take a mouthful out of a Peach that was devoid of saccharine juice. Besides, I must candidly admit that, however viciously disposed, I could scarcely afford on the present occasion to dip my pen in gall, seeing that on one point I am conscious that "S. B." has me decidedly "on the hip."

My enthusiasm undoubtedly betrayed me into one inadvertent expression, when I stated that my potted trees placed outside my house had produced fruit of "exquisite flavour and colour." Now, exquisite is rather a hyperbolic adjective, and I am afraid I have no defence for that word exquisite such a year as this. Let me make a clean breast of it—I have actually appealed to my better half on this point. I am sure that, if within the latitude of her conscience, she would bravely take my part; but she has pronounced her verdict adverse to my cause, and has decided in her court, from which there is no appeal, that the fruit in question was not exquisite in flavour, whatever it might be in colour, and that to tell me the truth she had considered it desirable to add a little sugar. "Singular!" said I, aghast at her words, "Then what am I to say by way of a rejoinder to 'S. B.'?" "Say," she replied, "say the naked truth, that you have fallen into a little exaggeration, and that you would have been nearer the mark had you simply stated that you had gathered ripe fruit of better flavour than might have been expected considering the unfavourableness of the season." It is plain to me, therefore, that the use of that infelicitous superlative word "exquisite," has laid me on my back, and I congratulate your correspondent, "S. B.," upon his discrimination in taking that epithet *cum grano salis*, and I beg that he will not punch me while I am down, and when I cry *peccavi*.

In reply to his other broadsides, however, with which he thinks he has raked me fore and aft, I do not intend to strike my flag so easily; so here goes shot for shot.

1st. It is his palaver, not mine, about Vine roots thriving among faggots and old wood. The faggots were merely placed at the bottom of the pit to serve as a bush-drain, and that the Vine roots do flourish as a matter of fact in the deep mould placed above the drainage, must be patent to the senses of all who can appreciate luxuriant Vines and splendid bunches of Grapes. I enclose you one leaf to convince you that what I say is not all rhodomontade.*

2ndly. I beg to reiterate the fact, for which my word must suffice, that my Muscat Grapes did ripen last year in my orchard-house without artificial heat. Whether they will do so this exceptional season of course I cannot tell, but judging from the present appearance of the bunches, I do not despair.

3rdly. I am obliged to your correspondent for his gratuitous affirmation, that "my Vine-clad rafters produce no shade which is detrimental to the Peaches beneath them." I am not so unwise as to suppose that the shade caused by the Vine leaves is unobjectionable, but I find that by spurring-in the Vines as closely as possible, and placing the potted trees beneath the glass, and not just under the rafters, and some little distance apart, the harm done is not very appreciable.

4thly. Allow me to say, that when I called my trees "paragons of perfection," I alluded chiefly to their healthy appear-

* The leaf is very large and healthy.—Eds.

ance, their bright green leaves indicating a perfect immunity from the attacks of red spider, also to their symmetrical shapes, and not merely to the quality of the fruit, which last, however, especially the Peaches, were very fine; and although they were grown in the same county as that in which Sawbridgeworth is situated, they seem to have far surpassed the rapid produce upon which your correspondent, who lives in the south of England, is so touchingly pathetic. Perhaps the use of 18-inch pots has given me an advantage over him, and I find that by giving the trees in these a good mulching, and renewing it when necessary, the roots are tempted to the surface, and I am thus freed from the necessity of lifting the trees, which in such heavy pots would be no easy matter. And now, being just about to start for the seaside, where I still propose to view everything *en couleur de rose*, even the hypercritical and exacting "S. B." should I have the good fortune to fall in with him, I must bid adieu to this controversy. One word, however, before I'm off.

There can be no doubt that the present has been an unfavourable season for the ripening of fruit. Even those samples of Peaches which were sent for competition to the Crystal Palace Show were observed to be inferior to those usually exhibited there; and when I ventured to speak of my success in orchard-house culture to your readers I by no means meant to imply that I alone was exempt from that insuperable drawback of cloudy weather, from which all cultivators must have suffered more or less this disastrous year; but I considered that, if in spite of this obstacle I had managed to grow Peaches, if not as exquisite in flavour as under brighter auspices, yet upon the whole very good, measuring, some of those under glass 9½ inches in circumference, and outside the house 8½ inches, I was fairly entitled to recount, for the encouragement of others, the results of my experience.—A CONSTANT READER.

LAXTON'S PROLIFIC EARLY LONGPOD PEA.

AFTER an absence from home of more than a fortnight I find my letter of inquiry respecting Laxton's Pea has called forth numerous other letters, the authors of which have evidently written in haste or at least without thought as to what they were writing about; for if they will take the trouble of referring to my letter they will find that I did not condemn the Pea, but merely inquired which of the three pods sent I was to consider Laxton's, and I will leave it for you to say whether or not there was a marked difference in them. Passing over the other writers, I will only reply in part to Messrs. Laxton and Carter and Co. First to Mr. Laxton, I would say he has mistaken my letter, thinking that I condemn his Pea, which is not the case; and I am perfectly aware that Peas in the dry state differ very considerably in appearance, as in Dickson's Favourite, Champion of Paris, &c., but more especially in the wrinkled kinds, as *Ne Plus Ultra*, but they do not show that difference in the growth or produce in the green state; and, lastly, I did not say that his Pea was advertised as the best Pea in cultivation. To Messrs. Carter & Co. I would say I am what I sign myself, "an Amateur," and that I have been able to inspect the Peas daily from sowing to gathering, and should feel obliged if they would say why I had three such distinct kinds if others had not; for distinct they were, one growing 2 feet high, another 3 feet, and Laxton's upwards of 4 feet; and, further, I beg to say that their published illustration is both incorrect and unnatural—incorrect, inasmuch as Laxton's Pea (with me) has not produced two pods on one stem, and unnatural as to the representation both of the Peas in the pod and the pods on the haulm.—AN AMATEUR.

RAPHANUS CAUDATUS.

My experience of this new vegetable entirely differs from that of your correspondent at Malvern Wells, and I rather imagine there must be something wrong in his treatment and management. I had four seeds early in the year, and sowed them in pots. From these I gathered seed again, and sowed some in the open ground, and my judgment of it is this—that as a vegetable uncooked it does very well to mix with salad; but that I should not grow it for that purpose, but as a cooked vegetable I consider it a great delicacy. I gathered the pods when about 9 inches or a foot long, and directed the cook to treat them as she would Asparagus. They were accordingly served up on toast, with some melted butter to eat with them; and I feel convinced that few persons would have been able to have distinguished them

from very tender Asparagus. When boiled they were of a beautiful bright green colour, and the only fault we found was that there was not enough gathered. I intend, if spared, to grow them more extensively next season, but in the open ground.

How can we differ so widely? it may be asked. I rather fancy that your correspondent has not used them sufficiently young, and I do not think it is fair to taste a vegetable meant for eating in a particular way without the usual accompaniments. Would Asparagus or Sea-kale be the same things without the melted butter? or Lettuce quite so good without the vinegar and oil? Therefore let not your correspondent hastily condemn, but try once more, and I believe he will find this new Radish a welcome addition to our vegetables.—D., Deal.

IVY ON TREES

Will you state your opinion as to the benefit or disadvantage of cutting off the Ivy from trees on which it has attained a very considerable growth? I have several large Oaks, Ashes, and Pines, on which, from neglect, the Ivy has fastened strongly, having enveloped many of them to the very top, and become as thick as a man's arm at the root. I cut some of the Ivy a year ago at the root, and it is now hanging brown and lifeless, and dropping off by degrees, but the trees look much more unhealthy than those on which it has been left undisturbed, and I fear to kill them by removing it. Your advice as to this, and also time and method, will much oblige—J. S. L.

[We have several times had trees in the condition you speak of, and found them much relieved by the Ivy being cut away. Perhaps, however, the benefit was not always perceptible in the first year, but it certainly became so. We did exactly as you have done, cut the Ivy at the root and allowed it to remain on the tree until it dropped off by decay, a process which on one occasion we believe took eight years or more; but the tree, an Oak, looks much better now than it did while the Ivy was on it, and several others less encumbered have shown similar good results from being relieved of so tenacious a parasite. Care, should, however, be taken in cutting the Ivy, not to cut through the bark of the permanent tree also. When the Ivy is as large as you describe, a hand-saw is a very good tool for the purpose. We prefer letting the dead Ivy remain on the tree, as it then drops away by degrees, rather than suddenly stripping the tree of a clothing which, though hurtful to it, has no doubt rendered the bark more accessible to the influences of atmospheric changes, and when once it is dead the tightness of its grasp is relaxed, and the tree throws it off when the proper time comes. We have seen several trees strangled with Ivy, and which have died after, of course, a struggle of greater or less duration. It is, however, quite possible that in the very last stage of a tree's struggle for life, it may not benefit by the relief given, as it may be too far gone. If your trees are not so, we think you may safely cut away all the Ivy and await the result with a certainty that most, if not all of them, will be in a healthy condition half a dozen years hence, and probably before that time, unless adverse seasons or treatment intervene.]

ROSES.

MR. KENT has kindly reminded me of "omissions" and "insertions." With regard to "omissions," he reminds me of that excellent Rose John Hopper, of which I have twenty-five fine plants, and Beauty of Waltham. He is quite right. I see John Hopper in the copy of the article.

Please to add these to my list—John Hopper, Beauty of Waltham, Mrs. W. Paul, Madame C. Wood, Gloire de Vitry, Empereur de Maroc. For deep loams only and protected situations I recommend Louise Peyronny, Madame Vidot, and Madame Rivers. The last two have not yet been beaten in their line of colour. I have put down *Alba Mutabilis* as a Tea Rose instead of a Hybrid Perpetual. Both *Rosea Alba* and *Alba Mutabilis* at the International Exhibition looked so like Madame Bravy that I supposed them to be Teas. Mr. Kent objects further to the omission of *Général Jacqueminot* and *Mdlle. Bonnaire*. The former is superseded by many fine crimson Roses that are full to their centres; the latter is very beautiful, but a bad grower. The *Général* may be retained for ornament.

As regards "insertions," Mr. Kent objects to *Sœur des Anges*. I have not seen the blooms of it this season; but last year eighteen plants of it bloomed constantly, producing most perfect and beautiful blooms, which justified M. Verschaffelt's assertion that it would "inspire the poets."

I have just finished the Herculean task of removing from Rushton all my open-ground plants, about a thousand, some of which are 8 feet high, and most of them 4 feet high. The weather has been capital. I began their removal on the 22nd of August, and finished on the 12th of September. They look well. I observed that 80 per cent. of the Manetti Roses were well furnished with own roots. In some cases I have cut the Manetti roots away. This justifies what I have always said—that the easiest way to get Roses on their own roots, without loss of time, is to plant Manetti Roses 2 inches over the collar of the bud. I found some of the Roses tripled, and some doubled, which afforded me good interest. I observed further that a Rose's strong own roots deteriorate the deeper roots of the Manetti; but that where there were no own roots, the Manetti roots, though planted ten years ago, were strong and good. I have no doubt whatever that Roses generally prefer their own roots to any stock, but the process is long; and, their roots being so close to the surface, require much winter and summer root protection till they are at least three years old. The advantages of Manetti-stocked Roses are, they are quickly established, and bloom abundantly at once. I have given away my 120 Briar Roses, budded by myself, as souvenirs, retaining only the yellow Tea-scented Noisettes, which do admirably on their own roots, on the Briar, or on the Manetti. —W. F. RADCLIFFE.

ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 18TH.

FLORAL COMMITTEE.—The seedling Dahlias constituted the principal feature of this meeting; but, as might be expected, first-class novelties were not abundant. Form, colour, and perfection in this flower seem to have arrived at a climax, and some very extraordinary seedling must make its appearance to claim any special notice, so many good flowers are in existence. Mr. G. Rawlings, Romford, again exhibited his very dark maroon seedling John Sladden; also *Aurora*, a bright rose, of good form, and medium size, which was awarded a second-class certificate. From Mr. Pope, Chelsea, came a seedling Dahlia Mrs. Pope, a light ground, tipped with purple, and Pope's Gem, a very good deep maroon-shaded Fancy, which received a first-class certificate; and from Mr. Burgess, Chelsea, seedling Dahlia Mrs. Burgess, lilac, edged with purple, which was awarded a second-class certificate. Mr. Bragg, of Slough, sent six seedling Dahlias, of which the Hon. Mrs. Gerald Wallesey, light ground, tipped with purple, received a second-class certificate; the others—viz., *Commodore*, *Warrior*, *Fair Lady*, *Goldbeater*, were not noticed. Mr. Cruikshanks, gardener to W. Jones Loyd, Esq., exhibited a lilac-striped Verbena, called *Lady of Langleybury*, a sport from *Purple King*, and which, having all the good qualities of the original, was awarded a first-class certificate; Mr. Collier, Bethnal Green, seedling Dahlia Salmon King; and Mr. G. Marsh, gardener to W. S. Shove, Esq., Lewisham, seedling *Zonale Pelargoniums* Miss Beatrice Shove and Mr. Bass. Mr. Bragg contributed a collection of Dahlias, and Mr. Standish a collection of seedling *Aucubas*. The latter were very interesting to the meeting, for, as Mr. Standish had the honour of exhibiting the first *Aucuba* in fruit in England, so has he on this occasion exhibited the first interesting collection of seedling *Aucubas*, and for them a special certificate was awarded. Messrs. Barr & Sugden exhibited a box of *Alternanthera spathulata* roses in a dense mass. We are sorry to say we cannot observe any use or merit, either for decoration or other useful qualities, in this plant, although by some it is much appreciated. Mr. G. Ward, gardener to A. D. Barrington, Esq., sent a cut spike of *Oncidium cruentum*, and from the Society's gardens came a collection of Orchids, consisting chiefly of *Odontoglossum grande*; a special certificate was awarded for this collection. Mr. Mann, Brentwood, sent several seedling plants, among them *Tropeolum Minimum*, but in the state in which it was exhibited it was useless, there being so many better. Mr. Mann also exhibited several seedling *Tricolor Pelargoniums*, some of them of great promise, but not sufficiently grown to enable the Committee to judge of their merits. Beauty of Brentwood appeared to be a first-class plant and very promising; when shown again it will doubtless take its stand. Amongst the others were *Octavia*, a plain-leaved *Zonale* of no merit; *Phidias*, another of the tricolor section, with flowers like *Harkaway*; *Ariel*, *Philemon*, *Penelope*, and *Procea*, all similar and not equal to other well-known kinds. Mr. Anderson, gardener to T. Dawson, Esq., Meadow Bank, received a special certificate for a superb spike of *Odontoglossum grande*, the finest spike of this Orchid ever seen. Had the plant been sent with the spike growing, it would most probably have received the Society's Lindley medal, so highly appreciated was the magnificence of the spike of flowers. Mr. C. Turner had a second-class

certificate for seedling Dahlias *Flambeau*, yellow ground, dark ruby tips; *Valentine*, shaded lilac; and *Lord Lyon*, dark plum or purple; he likewise sent *Peeress* and *Starlight*. All of these were very good flowers, but showing no progress on what we already possess. Mr. Eckford, gardener to the Earl of Radnor, Coleshill, exhibited seedling Dahlias Miss Rush, Lady Jane Ellice, and Mr. Bouverie; also, three seedling Verbenas, but not new or distinct—*Lady Mary Wilde*, a very pretty variety, white ground with rosy circle centre, good; *Matilda*, and Mrs. Laing. Mr. Eckford's specimen of *Saccolabium Blumei* was justly awarded a special certificate. Mr. Wheeler, Warminster, sent a box of Dahlias, which came late and in very bad condition. *Vanguard*, a deep maroon, large, rather flat flower, was awarded a second-class certificate. The others were much damaged in travelling. Messrs. Stuart & Mein, of Kelso, also sent a collection of seedling Hollyhocks, some of them very fine flowers. John Downie, a dark yet bright rosy carmine flower, was awarded a second-class certificate. Among others we noticed *Neatness* and *Martin Hunter*. In a more favourable season these would have been fine specimens. Several plants of *Scarlet Pelargoniums* and *Petunias* were sent from Chiswick in good condition.

FRUIT COMMITTEE.—Mr. Jones, gardener to Lord Leconfield, Petworth, exhibited a seedling Plum grown on a west wall, and which, being of remarkably fine flavour, would have had a first-class certificate had the Committee been certain that it was perfectly distinct; but in the absence of fruit for comparison, the award was deferred. Mr. Whiting, gardener to Mrs. Hope, the Deepdene, Dorking, sent *Belgian Purple Plum*, a valuable kind for cooking, and a *Peach to name*; and Mr. Siffin, Snarebrook, a yellow *Peach* grown on a standard in the open air, and as such of good flavour, but not superior to other yellow kinds. From Mr. Cruikshanks, gardener to W. Jones Loyd, Esq., came a dish of the *Basset Apple*, a solid kind for kitchen use, and from the Society's garden at Chiswick, came several dishes of Grapes. Messrs. Cutbush, of Highgate, contributed a number of specimens of the *Nuneham Park Onion* grown at Nuneham Park, Oxfordshire; at Trent Park, Barnet; Aylesford, Kent; Muswell Hill, Hampstead, and Highgate, contrasted with the *White Spanish* grown at the same places, to disprove the identity of the two varieties; but although the difference as regards size was very considerable, the Committee did not see sufficient grounds for altering the decision at which they arrived at their last meeting. For the purpose of comparison, Mr. Whiting promised to send specimens of the *White Spanish* grown at the Deepdene. Messrs. Wrench & Sons, of London Bridge, also sent several kinds of Onions, of which two called *St. Ann* and *St. George* were favourably noticed, also a good stock of the *Early York Cabbage*. Lastly, from Messrs. Veitch came three kinds of Savoy—namely, the *Yellow Drumhead*, a large variety; *Dwarf Green Curled*, excellent for general purposes; and the *Early Ulm*, a sort still too little known and cultivated, and which, besides being tender and of excellent flavour even when untouched by frost, occupies little room, and is, therefore, well adapted for small gardens.

FOURTEENTH MEETING.—S. Rucker, Esq., in the chair. After the usual announcement of awards, the Rev. Joshua Dix said it was his painful duty to announce the loss of one of the best supporters of the Society—J. J. Blandy, Esq., and asked the members present to pass a vote expressive of their regret. This having been done, Mr. Wilson directed attention to an error in the dates of the October Tuesday meetings, as given on the cover of the Society's Almanack, but which does not exist in the body, the dates stated—namely, October 2nd and 16th, being correct.

ROYAL HORTICULTURAL SOCIETY OF IRELAND.

On the 18th inst. the Finance Committee paid the prizes of the season, amounting to about £600. In addition to the ordinary prizes, the Society's silver medal was presented to the following competitors:—To Mr. William M'Neill, head gardener to the Chief Secretary (Right Hon. Lord Naas, M.P.), Phoenix Park, he having obtained the greatest number of first prizes in the plant section; to Messrs. Campbell, Churchill Nurseries, Glasnevin, they having obtained the greatest number of first prizes for florists' flowers; to Mr. David James, head gardener to his Grace the Duke of Leinster, Carton, Maynooth, having obtained the greatest number of first prizes for fruits; and to Mr. James Lane, Sybil Hill Gardens, Raheny, having taken the greatest number for vegetables at the exhibitions of the year. The silver medal was also presented to Gilbert Gallagher, tenant of W. B. Brownrigg, Esq., Moor Hill, Co. Kildare, he having obtained the greatest number of prizes in the Artisans' and Cottagers' Class; and the bronze medal to Mr. James Bethell, Rockbrook, Co. Dublin, tenant of Mrs. White, of Killakee, he being the next successful competitor.

In addition to these, two silver medals were presented to Mr. Roberts, head gardener to the Hon. Major Bury, D.L., Charleville Forest, Tullamore, for the magnificent examples of first-class Grape-growing exhibited by him at the late autumn Show. The bronze medal was presented to Mr. Mason, gardener to Colonel Taylor, M.P., Ardgillan Castle, Balbriggan, he having been next in merit for White Grapes on that occasion.

SECOND CROP OF FIGS RIPENING ON STANDARDS IN THE OPEN AIR.

I HAVE to-day (Sept. 14th), gathered from a small standard tree four ripe autumn Figs, and at least a dozen more are colouring upon that and other trees. The Figs are not more than half the size of the spring Figs—that is, they are as long, but have not swelled, and this seems to be the only difference between them and the spring crop. I have many dozens as large, but not yet showing any tendency to colour, except at the eyes. At the end of last winter I had about nine dozen of last autumn's Figs on my trees, all of which looked very promising, and most of them would probably have ripened but for the unfavourable spring, and in particular the heavy easterly winds, which destroyed them all. If we have a fair allowance of sun during the next month or six weeks, I shall hope to have many more fit to gather. Small as those I have referred to are, they are as large as Figs from Nice, for which I have been asked 2d. each in the Paris markets in August.—H., Ventnor.

A BLUE BEDDING GERANIUM.

MR. ROBSON's suggestions at page 205 of the present volume, may induce some of your readers to seek for the philosopher's stone amongst bedding plants, in the shape of a blue Geranium, and I should be sorry to cool the enthusiasm of any zealous hybridist who may have that object in view; but, as I believe, records of failures are not unusually stepping-stones to success, and although my non-success in attempting to cross bedding Pelargoniums with Geranium pratense may not help to put other enthusiasts in the right road to gain their point, it may tend to keep them from going in a wrong track.

In the years 1857 and 1858 I endeavoured to fertilise Pelargoniums *Boule de Neige*, *Queen*, *Kingsbury Pet*, and *Prince of Orange* with the pollen of Geranium pratense. I repeated the experiment several times and under different circumstances, but succeeded only in obtaining two or three seeds which produced plants bearing no resemblance whatever to pratense; these seeds were doubtless the result of pollen from some of the bedding varieties having accidentally gained access to the flowers experimented on. I also tried to cross-fertilise the flowers of a potted plant of *G. pratense* with some of the bedding Pelargoniums, but did not succeed in obtaining a single seed. I made similar futile attempts with the spotted (show) varieties. I do not recollect ever having tried Geranium sylvaticum, but I endeavoured on one occasion to intercross both the bedding and spotted Pelargoniums with Geranium Robertianum, and the results, I regret to say, only added to my long list of failures.

I think, therefore, your readers will do well to look in another direction for a blue bedder, for although I tried these experiments eight or nine years ago, further experience and consideration satisfy me that it will be utterly useless to expect a cross between these varieties, or, as I ought, perhaps, rather to say, a hybrid between the bedding and show varieties of Pelargoniums and the indigenous Geraniums.—THOMAS LAXTON.

FRUITING-HOUSE SLIGHTLY HEATED—DOUBLE GLAZING.

I AM about to build a small fruiting-house 20 feet long by 9½ in the clear. The ground will have to be excavated to the depth of 2 feet. The back wall will be 10 feet high, a brick and a half thick; the front 5 feet high, 3 feet brick and 2 feet glass for ventilation; rafters, 12 feet; ventilators in the back wall. I intend to pave the whole inside to keep out the rats, as there is a brook just by, and they are very numerous.

I do not particularly want the house, as I have a small greenhouse, the flue of which runs into the kitchen chimney and causes it to smoke, so that I must alter the flue by carrying it into the garden, and making a chimney for it in that situation; and the idea struck me that I would cover in this space by building a small house over it, and have sufficient heat in the winter from the greenhouse fire for bedding Geraniums, fruit trees, or early vegetables. Do you think I do right by paving the whole of the bottom? I intend having a door at each end for ventilation, a path along the middle 2½ feet wide, the flue on one side of the path, with brick-on-edge work on it to bring it up to a level with the front wall—namely, 3 feet. On the

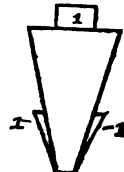
other side of the path there will also be a wall of brick 3 feet in height, so that a person walking along will have on either side of him brickwork a yard high. The spaces between the front wall and back wall to the brickwork at the sides of the path will leave a bed on each side of about 2½ feet wide, the front one for seeds or plants, the back one for fruit trees against the wall and trees in pots. In the bed next the flue I propose placing large draining-pipes with their open ends against the flue, so as to carry the heat under the bed, putting rubble on the top, and then the mould; the other bed to be filled with rubble and mould.

The most difficult part, however, which I have to contend with is the double glazing of the roof. In a late Number of the Journal a gentleman attempted to explain the *modus operandi*, but I do not understand it, nor does my carpenter. Perhaps you would be kind enough to explain it to me. My greenhouse is covered with rough plate; would that do as well for an orchard-house with single glazing? Is the angle right for an orchard-house—10 feet high at back and 5 feet in front?—F. T.

[A flue taken from a greenhouse into a kitchen chimney will be apt to make the chimney smoke if the kitchen fire be not kept constantly in use, and if the flue do not enter the chimney some 8 or 10 feet from the fireplace. We see no objection to the paving of the bottom of the house, provided you have enough soil above for the trees against the back wall as well as in pots. For such a cool house slightly heated we should have preferred the flue in the middle of the house, and forming part of the path. If this could not be done we would have the side of the flue as part of the three-feet wall that keeps the bed from the pathway. With this done, the tiles you speak of connected with the side of the flue, and the rough rubble beneath the bed, your front bed will be very useful for raising seeds, early vegetables, &c., whilst the back unheated bed would be cooler for the roots of the trees.]

We perceive no reason why for such a cool house you should think of double glazing at all. The double glass is chiefly useful where a regular and high temperature is wanted. In practice, though more expensive, it is well to have the outer roof moveable. The plan to which you refer, we presume is that of Mr. Dawson at page 46, extracted from the "Scottish Gardener." We are not surprised that you do not quite understand the description, as on first reading it we did not understand it ourselves, and it would be well if Mr. Dawson were to explain more fully his plan of making the rafter. Meanwhile, we think the altering of one word in the last line of the first column will help, with a little explanation, to make all clear to you. That word is "wide." We would change it to 1½ inch "deep." Then, supposing that for a 20-feet length of rafter Mr. Dawson has wood cut out the right length, 5½ inches deep, and 3½ inches wide, these pieces he cuts down into two rafters weather-board fashion, so that each when cut, and allowing for working, will be nearly the above 5½ inches deep, 2½ inches wide at the top, and half an inch wide at the bottom. Of course these rafters must be so fixed back and front on the roof, that the middle of the half-inch width at bottom may be in the same vertical line as the middle of the 2½-inch width at top. Thus we have the size of the rafter 5½ inches deep, 2½ inches wide at top, and half an inch wide, at bottom, but no rebates for the glass. Well, then, for the inner rebates for inner glass, measure 3 inches down from the top of the rafter, and fix on each side pieces of wood 1½ inch deep, not wide, and half an inch wide at top, and tapering to nothing at the lower end, this half inch acting as a rebate for the inner glass. Then for the outer glass, fix on the centre of the top of the rafter slips of wood three-quarters of an inch deep and 1½ inch wide, and this leaves half an inch on each side for the top rebates for receiving the glass. We are doubtful if such rafters without support would be strong enough for double glass, but on that we are not called to decide.

The angle of your house will do, but the roof will be rather flat. Rough plate glass would do for the roof; and for a 12-feet rafter, if you give up the idea of a double roof, you could not do better than choose 12-feet battens, 3 inches thick and 8 or 9 inches wide, which, cut twice on the square, will give you rafters nearly 1½ inch wide, and nearly 4 or 4½ inches deep. Tack on the top of the rafter a piece three-quarters of an inch square, and you will have rebates on each side—that is, if you do not have rebates cut at once. Mr. Dawson's rafters will look neater inside.]



1, 1, Rebates nailed on.

NOTES AND GLEANINGS.

After the sitting of the Fruit and Floral Committees of the Royal Horticultural Society on Tuesday last, the 18th inst., a general and joint Committee (Fruit and Floral), was formed to consider the possibility and advantage of a three-days continued exhibition for 1887. The Council propose one continued meeting from Tuesday till Saturday, instead of three great exhibitions on three distinct days. The suggestion was favourably received, and will be finally discussed at the next Committee meeting—viz., on the 2nd of October, when all parties interested are most earnestly requested to attend. We are sure that they will lend a helping hand, and, therefore, we may expect that exhibitors, both amateur and professional, will make a point of attending the meeting, which will be held after the business of the Fruit and Floral Committees has been finished.

— We remember a Grouse-shooting party resident for many days on a Scotch moor, the nearest village to which was twelve miles distant. In the midst of that highland waste dwelt a man, his wife, and bairns. Those "many days" were real days of freedom—no letters, no morning callers came there. This was delightful whilst health, that merry fellow, was present; but when he slipped away and sickness, sorrowful beldame, took his place, what then? This was thought, and the Highlander's "bonnie wee wife," was asked what she did when that happened, and she revealed all her knowledge of "simples." Most of these, unfortunately are forgotten, but it is remembered that she used the juice of Buckthorn berries (*Rhamnus catharticus*), as a purgative, and applied the common Cinquefoil (*Potentilla reptans*), to bruises, wounds, and internally for "shivering fits." All this was recalled to memory by reading the excellent address of the President of the Pharmaceutical Society, Professor Bentley, at the recent Conference held at Nottingham. The following are only a few extracts:—

"A knowledge of the general properties of the various natural orders of plants, will give us a clue in the search for new remedies; for it is very probable that in a country like our own, which, as we have just seen, contains so many important plants growing in a wild state, may also yield many others the properties of which are as yet unknown; and even should such not be the case, it will, doubtless, direct more attention to the properties of our native plants, some of which are but too little appreciated at the present day, so that, in the event of war or any other cause which may occasion a deficiency or withdrawal of any of our important remedies now obtained from abroad, we might find substitutes at home. I must content myself with one illustration of the importance of keeping up a knowledge of the properties of the plants of this country. This is afforded us by the *Aspidium* or *Nephrodium Filix-mas*, the male Fern, one of the commonest plants of this country. The root, or more properly the rhizome, of this plant had been reputed for ages to possess powerful anthelmintic properties, but in consequence of the common use of medicines of like properties obtained from abroad, its virtues were almost lost sight of until lately, when in consequence of the introduction from Abyssinia of Kousso, a substance reputed to possess most powerful vermifuge properties, attention was again directed to it, and it was introduced into the 'British Pharmacopoeia,' and I believe most persons will agree with me that its reputation is now established as the most valuable and certain anthelmintic in that volume. Besides this, there are without doubt many other indigenous plants which are not at present official, or which are but very little employed, or whose properties are altogether unknown, which would be available, and would have their reputation established as important remedial agents should any necessity for their employment arise.

"Thus, in the first place, we may take as illustrations the natural orders *Malvaceae* and *Gentianaceae*. The plants of the former order are generally characterised by mucilaginous and demulcent properties, and these are prominently manifested in our indigenous *Althea officinalis*, and *Malva sylvestris*, both of which were, until the publication of the 'British Pharmacopoeia,' official in this country; and why the former, certainly one of the best emollient and demulcent medicines known, should have been omitted from that volume, I am at a loss to conceive, for nothing has been introduced in its place which will altogether replace it. Again, the plants of the *Gentianaceae* are all more or less bitter, and possess stomachic and tonic properties; and as we have many common plants indigenous to this country belonging to that order, they might be employed, if necessary, as substitutes for the official *Gentian* and *Chi-*

retta, which are of foreign origin; as, for instance, the *Mery-anthes trifoliata*, *Erythraea centaureum*, *Chlora perfoliata*, *Gentiana campestris*, and other species of *Gentiana*, &c. Indeed, the two former plants were included in the last 'Edinburgh Pharmacopoeia,' but they were but little used, their properties being comparatively unknown, owing principally to the common use of the readily obtainable *Gentian*; nevertheless they both possess, particularly the former, well-marked stomachic and tonic properties, and are probably equally efficacious as the *Ophelia chirata*, now introduced into the British Pharmacopoeia.

"Then, again, amongst our indigenous plants, we have many with well-marked purgative and astringent properties. Thus, amongst those of a purgative nature we may mention the *Linum catharticum*, *Rhamnus catharticus*, *Euphorbia lathyris*, *Helleborus foetidus*, and *Helleborus viridis*. Some of these might be frequently substituted with advantage for drugs of similar properties derived from foreign plants. Of astringent plants we have a great many growing wild in this country, two of which are especially valuable—namely, the *Potentilla tormentilla*, and the *Polygonum bistorta*. With regard to the former, Dr. Christison has justly remarked that 'it is equally applicable with catechu, kino, and other astringents of foreign origin in the treatment of chronic dysentery and other chronic mucous discharges.'

"Another indigenous plant, of much value, is the *Acorus calamus*. This is abundant in the marshes and by the sides of rivers in some parts of this country. Many pharmacologists have borne ample testimony to the value of its rhizome in medicine, as a stimulant excitant, and mild aromatic tonic, and as a remedy in intermittent fevers; but it is scarcely or ever employed at the present time, though, as stated by Pereira, "it might be frequently substituted, with good effect, for the more costly Oriental aromatics." Again, as is well known, we can obtain from the bark of various species of *Salix* and *Populus*, the alkaloid salicine which has been found to possess well-marked tonic, and to some extent anti-periodic properties, and which has consequently been tried as a substitute for the alkaloids quinia and cinchonia. Some few years ago, in consequence of an anticipated scarcity in our supplies of cinchona barks, much attention was directed to salicine; and, although, in consequence of the successful cultivation of *Cinchonas* in India, no deficiency of barks is now likely to occur, it is right that we should not lose sight altogether of any substance which is calculated even in the slightest degree to act as a substitute for the valuable alkaloids obtainable from those barks. Again, the *Arum maculatum*, so abundant in our hedges, &c., would yield us, if required, abundance of starch, which might be employed as a substitute for sago, and the various kinds of arrow-root now derived from abroad. The above are but a few of our indigenous plants which have been found to possess well-marked medicinal properties; if time allowed, I might refer to a host of others, as the *Chelidonium majus*, *Cochlearia officinalis*, *Saponaria officinalis*, *Viola odorata*, *Agrimonia eupatoria*, *Bryonia dioica*, *Archangelica officinalis*, *Daucus carota*, *Galium aparine*, *Cotyledon umbilicus*, *Inula helenium*, *Artemisia absinthium*, *Achillea millefolium*, *Lactuca virosa*, *Cyclamen hederifolium*, *Borago officinalis*, *Melissa officinalis*, *Marrubium vulgare*, *Gratiola officinalis*, *Chenopodium olidum*, *Asarum europaeum*, *Aristolochia clematitis*, &c.; but they will be sufficient as illustrations of the importance of a knowledge of botany to pharmacologists resident in this country."

The Professor then proceeded to remark upon the importance of a knowledge of the physiology and chemistry of plants, from which we must make one interesting extract.

"A knowledge of the influence of solar light upon the process of assimilation shows us why plants, or parts of plants, when grown in the dark become blanched, and generally deficient in products and secretions; and the same fact explains why the secretions of plants are less perfectly or more sparingly formed in cold, dull summers, than in light, sunny ones, and the consequent greater activity of medicinal plants in the latter seasons. The same cause also explains why plants of warmer regions than our own are commonly remarkable for the more powerful nature of their secretions; and also the reason why such plants when transported to this country and placed in our hot-houses can never be made, in consequence, principally, of the diminished intensity of light to which they are then exposed, to form their peculiar secretions. We see, also, the cause why such plants as *Celery*, *Endive*, *Sea-kale*, &c., which, when grown under natural conditions, are rank and unwholesome from the formation of their peculiar secretions, become, when

cultivated under diminished light, or in darkness, useful vegetables.

"All the above facts are of great interest, as they have an important bearing upon the growth of plants and fruits for the table, as well as in a medicinal and economic point of view. At present, however, much remains to be discovered before we can be said to have anything like a satisfactory explanation of the causes which influence the formation of the secretions of plants; for it is found that the same plants when grown in different parts of Great Britain, where the climatal differences are not strikingly at variance, or even at the distance of a few miles, or in some cases a few yards, frequently vary much as regards the nature and activity of their peculiar secretions. A striking illustration of this fact is mentioned by Dr. Christison, who found that some Umbelliferous plants, as *Cicuta virosa* (Water Hemlock), and *Ceanothus crocata* (Hemlock Water Dropwort), which are poisonous in most districts of England, were innocuous when grown near Edinburgh. The causes which lead to such differences are at present obscure, but the varying conditions of soil, moisture, and exposure to air under which such plants are grown, have, doubtless, an important influence upon their secretions. In a pharmaceutical point of view, so far as the active properties of the various medicinal preparations obtained from plants are concerned, this modification in the secretions of plants by such causes is of much interest, and would amply repay investigation, for it cannot be doubted but that each plant will only form its proper secretions when grown under those circumstances which are natural to it, and that, consequently any change from such conditions will modify in a corresponding degree the properties of the plant. I cannot but believe that here we have an explanation, to some extent at least, of the cause of the varying strength of medicinal preparations obtained from plants grown in different parts of this country, or in different soils, &c."

The surplus bedding plants of the public parks and of Kew Gardens are to be distributed among the poorer inhabitants of London. If the clergy, school committees, and others interested in such a distribution will apply to the Superintendent of the park nearest to their respective parishes, or to the Director of the Royal Gardens, Kew, they will be informed of the number of plants which can be allotted to each applicant, and when and where they can be received.

WORK FOR THE WEEK.

KITCHEN GARDEN.

As soon as the portion of land intended for trenching becomes vacant let that operation be set about. Stiff, tenacious soils had better be ridged, so that a large surface may be exposed to the action of the weather. *Artichokes* (Globe), cut off the stems as fast as the heads are used. *Cabbage*, see that the ground is in readiness for transplanting the winter Cabbage. Remove all dead and decaying leaves from the Brassica tribe in general to some ground under the process of trenching, and keep the earth well stirred about the plants. *Endive*, plant some of the latest, also hardy *Lettuce*, in a sheltered corner where the plants can be covered in severe weather with fern, dry litter, or mats. *Spinach*, pay attention to thinning; that to stand the winter may be thinned to 6 inches apart. *Tomatoes*, train and stop, and thin the laterals, but avoid stripping off too many leaves.

FRUIT GARDEN.

Let no further delay take place if Strawberry planting has been previously neglected. Old beds intended to be left for another season should have the runners and rubbish cleared from them, and be well dressed with rich decomposed manure; but do not mow off the leaves. The Prolific Hautbois planted now 6 inches apart on well-manured beds will succeed well. Apples and Pears will now require constant watching to catch the favourable time for gathering, which must be as soon as they can be detached from the shoot easily without using force. Those intended for long keeping must be used very carefully, carried in small quantities to the fruit-room, and laid upon the shelves. The plan of laying them in heaps to sweat, as it is called, will not answer for such as are required to be kept long, as it hastens the ripening process too much, and as a necessary consequence decay will sooner ensue. Keep a look out for tomtits, which are apt to spoil some of the best Pears just at this time. As soon as the last Peach is gathered, those trees which have become infested with the red spider should have a liberal application of sulphur. Uncover Currants, if matted, occasionally during fine days.

FLOWER GARDEN.

If previous directions have been attended to, the propagation of next season's bedding stock will by this time be well advanced, and where from the pressure of other work, or from various causes, this is not the case, every possible dispatch must be used while the weather is favourable for such work. Where cuttings of *Verbenas* and similar plants have yet to be put in, they should be inserted rather thinly in deep pans or shallow pots in which they can be wintered, as they will become established sooner in this way than would be the case if they were to be potted off before winter. We have frequently found that late cuttings managed in this way have wintered fully as well as stronger plants, and except in the case of plants to furnish cuttings in spring, it is immaterial how small bedding plants are before winter, provided they are well rooted without having been grown in a close warm atmosphere, which renders them sappy and tender. Many persons through anxiety to secure large plants, keep bedding-out stock close and moist until late in the autumn, and frequently in frames on dung-beds where size is soon obtained, but plants treated in this way are necessarily so soft and tender that it is almost impossible to carry them through the winter without serious loss. Therefore, avoid keeping such plants too warm after this season, and if they are placed in bottom heat give air at night and whenever it can be done without the cuttings flagging, so as to prevent weakly growth. Old plants of *Pinks* intended to stand over the winter, for the sake of pipings next year, should be examined and straggling shoots cut away, reducing them into a neat and compact form. Offsets of *Tulips* will be better in the ground than out.

GREENHOUSE AND CONSERVATORY.

Proceed with the housing of tender plants. Many amongst the usual occupants of the conservatory are extremely impatient of a low degree of heat. Anything that tends to interrupt the healthy action of the sap is in fact to be avoided. The advantage of removing them from the influence of the cold, moist, ungenial weather will be, that this continuous and desired action will not be checked. Mildew is the frequent result of cold and damp. *Cyclamens* will now be in action; if requisite they should be shifted. *Roses* which have been prepared for early blooming should be housed before frosty weather arrives, and kept at first in a cold frame. If any deficiency exists in the stock of plants for forcing, healthy young stuff should be selected (the *Perpetuals* or *Bourbons* are best), and potted. If plunged in a little bottom heat and kept close for a few weeks they will root and be fit for forcing the same season. *Heliotropes*, *Scarlet Pelargoniums*, &c., should have a light situation near the glass. The *Lachenalia* family should now be brought forth and repotted. Such, on a greenhouse shelf, will flower in February.

STOVE.

All stove plants which have been removed to the conservatory or other structures, should now be taken back to their permanent stations without delay, both for their own sakes, and for the sake of the general arrangement in other structures. Give a most liberal ventilation at this time, not forgetting, however, to accompany it with much warmth, for the hardening of growth is not carried out by means of chilling draughts but by high temperatures, accompanied by a free perspiration from the leaves of the plants. Much attention must be given to watering under the above circumstances. The *Orchids* are scarcely an exception as to the above atmospheric conditions. They, too, must be hardened into ripeness in the pseudo-bulb. Where newly imported or other plants are growing late, they will require a slight compromise in this course of treatment.

PITS AND FRAMES.

The whole winter's arrangement as to the disposal of these structures should be determined on soon, and a regular plan laid down and progressively acted on according to the order of the affair. In an ordinary garden it is sometimes a puzzle with a limited number to apportion them to the purposes required. The half-hardy plants must have a frame or two. Some surplus stock belonging to the greenhouse or conservatory, but not quite good enough to be placed there at present, requires wintering. The *Endives* to be safe want protection, and the *Cauliflowers* and *Lettuces* want a frame. The *Neapolitan Violets* also must be similarly situated, added to which some early *Asparagus* must, perhaps, be forced, for which, of course, a pit or frame must be reserved. Where there are not sufficient conveniences of this kind, attention should be immediately given to the formation of some turf-pits. They should

be excavated to the depth of 18 inches, and drained so that no water can enter; a few layers of turf, and a framework of wood to receive the mats, lights, or whatever may be provided, will complete the necessary preparations. We imagine the employment of heating apparatus might in many instances be obviated by following the practice of sinking pits, allowing only the glass roof to be exposed to the weather. In France and Belgium, Camellias, Oranges, and many other tender greenhouse plants are preserved uninjured through severe winters by the adoption of this plan. The precaution most necessary in this country would be efficient drainage, moisture being almost as bad as frost. Proper attention to this and ventilation, would make sunk pits fit receptacles for a vast number of tender plants.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Onions.—Took the opportunity of a fine day to pull up most of the Onions, and when they are well dried will house them to be ready for stringing in a wet day. We have proved over and over again that if Onions be kept airy and dry, no amount of frost in winter will injure them. Fine specimens will keep longer if in a spare time in winter the root end is scorched with a hot iron, and the tops are kept as cool as possible. We have scorched the tops also with advantage, but when kept at all warm begin to grow they will. We have frequently been surprised on seeing splendid Onions in the shops of London in June, imported, of course, and apparently of last season's growth, without a sign of sprouting, and quite as fresh when out as the most forward of our winter Onions which we had transplanted early in spring. Can any one tell us how such Onions, which are perfectly ripe and sound, without a vestige of a thick neck, can be produced and kept by us? Sowed some more Onions, which will be late if the weather be cold and frosty, but which, if it should prove mild, will be better for planting out in spring than those of the two earlier autumn sowings. We think we have previously stated that to have fine sound bulbs in spring and early summer from autumn-sown seed, it is necessary to transplant in spring. They rarely with us come so good when left in the seed-bed. We have sometimes thought that the fine Onions in the shops early in summer are owing to the transplanting process in an earlier and better climate, but we never could learn the facts of their history.

Commenced shallow-trenching a part of the Onion ground for the earliest spring Cabbage. The Onions, generally following Celery, with some extra dressing the ground is rich enough for Cabbage without any extra dressing, unless it be well-rotted manure. We have trenched in lots of half-rotten grass, &c., placing it in the bottom of the trench, but it had a tendency to make the plants too succulent in winter and more liable to be injured by frost. It is as well for the earliest when no rank manure whatever is added; but such mulchings in spring, and manure waterings in early summer, tell wonderfully on the almost ceaseless production of the Cabbage quarters.

Celery.—Took the chance of a fine day to remove the suckers from the most forward, to tie up the heads neatly, and to throw about an inch of soil over the surface to keep the moisture in and to prevent the sun from acting on the roots, which are matted close to the surface, as the tying up allows of more light reaching the soil. The tying also brings up the centre of the plant, and helps to blanch it. We have only enough earthed up to last for a fortnight or three weeks, and will earth up a little bit more to keep the succession going.

Peas.—Put fresh sticks and strings to those which the winds have been using roughly, to prevent their being knocked about and injured. Some vermin, such as rats, have let us more alone, no doubt finding Wheat and Oats more tempting fare.

Though the weather is what is here styled "tacky," very unsettled, sunshine and showers following closely on each other, the brisk winds have helped greatly to the clearing of the fields, and stacking or barning the valuable grain. It was a matter of regret, that after much grain had been stacked in good order, the drenching rains came before the stacks were thatched. Such incidents show the importance of large open-sided Dutch barns, where the fixed roof does away with thatching altogether, and where common precautions at the sides near the ground would prevent either mice or rats entering. The former sometimes find their way in along with the sheaves, but never otherwise. In a former volume it was described how

economically these fixed roofs were made by Mr. Hamilton, of Hamwood, near Dublin.

Mushroom Spawn.—Chose a damp day and an open shed for preparing dung for this purpose, in the mode several times detailed. The material just now used consisted of two parts fresh horse-dung, heated enough to kill what seeds there might be in it, one part of cowdung rather stiff, and one-tenth of a part of road-drift, the whole worked up to a thick mortar-like paste, and then passed through a mould 9 inches long, $4\frac{1}{2}$ inches wide, and $1\frac{1}{2}$ inch thick, each piece being set up to dry like so many bricks. As we mentioned previously, the making is all very well when a great quantity is required, but in all cases where from one to two or three bushels will be quite ample for the season, it is in every way more economical to obtain what is wanted from a respectable nurseryman. The division of labour will ever prove a great advantage to the general consumer. In making a couple of bushels of spawn at home there would be as much nicety required, as much strict attention to minute details, as if you had a heap of twenty or several hundred bushels.

FRUIT GARDEN.

Gathered fruit on fine days. Cut back the second growth of wood, and would prune and thin Raspberries if we could find time. Nipped out damped berries from Grapes, and kept wasps, by catching and trapping, from late Peaches. We notice that sawdust from non-resinous trees is recommended for the storing of Apples and Pears. It would require to be thoroughly dried, and even then if the layers are not thin it will be almost sure to heat. We once saw from this cause a lot of Apples forming a mass of decay. A heap of Carrots shared a similar fate. Of course when used in small quantities there is little danger; but if the heap is at all large it will absorb moisture from the fruit, and will heat in consequence. Few things are better for producing a mild bottom heat than sawdust; and the objections against plunging pots in it are chiefly two—the danger of being troubled with fungus, &c., as the sawdust becomes damp, and the tendency it has to clog up firmly the hole in the bottom of the pot, and thus prevent drainage.

Went over Strawberry plants in pots again, cutting the runners from them, and giving the pots more room, as the rains are making the plants grow rather too freely. Dry weather will help to ripen the buds of the more forward.

ORNAMENTAL DEPARTMENT.

Machined and mowed lawns, rolled walks, and commenced picking the worst flowers and faded leaves from the flower beds. They seem to have suffered as much from a slight frost on two mornings as from the rains; but even now, if we have a few fine days they will yet be beautiful. We are still proceeding with putting in cuttings of variegated and other Geraniums under glass, Verbenas, &c., where there is just a little bottom heat secured by means of grass and litter, rotten leaves on the top, and a covering of ashes over all to keep down the steam. Potted Cinerarias and Primulas, giving them more room. Regulated houses, placing flowering plants in them from the pits. Will not trouble with Calceolaria cuttings until next month.

Bulbs.—Several readers wish to have a few words as to these for blooming early in their windows and in small gardens; and though we cannot offer a fresh observation on the subject, it may not be out of place to make a few remarks for the use of beginners.

1st, If you desire a particular effect, and wish to spend a certain sum, your best plan will be to state what you wish to a respectable bulb-seller, and you will be better served than you could by making out a named list for yourself.

2nd, If you select your bulbs personally, choose those that are clean, seemingly healthy, and heaviest and firmest for their size, as these generally will be the best matured, and may be expected to produce the finest flower-stems; for let it never be forgotten that no care will cause a bulb to do well that has been taken up prematurely, or that has been imperfectly ripened. Firmness and weight are, therefore, a better guide than mere size, if that size is attended with flabbiness or lightness.

3rd, A five or six-inch pot will grow a Hyacinth very well. A six or eight-inch pot will do for the stronger Narcissus. A six-inch pot will do for three Tulips, six Crocuses or Snow-drops, or four Jonquills, according to size.

4th, The soil best suited for all is a rich sandy loam, which may be thus formed:—Common loam three parts, very rotten dung or leaf mould, sweet, one part, clear sand one part, all well mixed together. Drain the pots, fill them fully three parts full, and give the pots a good shake so as to settle the soil, which is to be neither wet nor dry, and then fasten the bulb so that the top shall be just covered.

5th, Hyacinths, especially, do well in glasses in rooms, and might often do better if a little more attention were given to their needs. Fill the glasses with soft water, put in several pieces of charcoal, place the bulb on the top just with its bottom touching the water, and set the glasses in a dark place until the roots are freely formed. Until this is the case fill up with water if it sinks, renew with fresh and slightly warmed every six or eight days, and place in the lightest part of the room as soon as the flower-stem begins to rise. It will thus come strong and stubby, and if it offers to be too squat and stubby it will be helped by placing a small inverted paper funnel over it, especially at night.

When the plant is to be grown in a pot, place the bulb so that its upper surface shall be a quarter of an inch below the rim of the pot, do not press the soil much below the bulb, but make it firm all round it at the sides. If moderately moist, the pots will want no water. Set these pots in a damp, dark place in-doors, as on a cellar-floor, and cover over with a cloth or two, to prevent the surface drying, and to keep the bulb warmer. Ere long roots will be protruded, and the stem and leaves begin to expand, and then the pot and its contents must gradually be exposed to more light until you give it all you can in the window, and water will be wanted as the growth increases.

When, in addition to the window, you can command a frame or pit to bring these bulbs forward with a little forcing heat, then the pots should be filled nearly full, just slightly pressed, the bulb placed on the surface, and soil placed round it, so that the upper surface of the bulb shall be quite as high as the rim of the pot. Then these pots should be set on a hard bottom in a bed, and be covered with 2 or 3 inches of ashes, leaf mould, &c. The plants in the pots will then be more like being planted at once in the ground. The weight of the covering will press the bulb deep enough in the pot, and make it firm enough without much firming at planting, and when the pot is pretty full of roots, you can take it out, gradually expose it to the full light, and give it more heat, and before you take it to the window, harden off again by degrees.

The same process may be adopted with all bulbs usually forced for winter and spring; but let it be borne in mind that Snowdrops and Crocuses will force but little.

6th, When bulbs are wanted for early blooming in the flower-garden, and the plants in beds now are wished to remain as long in bloom as possible, then the best plan is to fix upon a dryish place for a bed out of doors, and with a firm bottom. On this place about 3 inches of loam and rough leaf mould, and on it set your garden bulbs at 4 or 5 inches apart for Hyacinths, 2 or 3 inches apart for Tulips, and from 1 to 2 inches for Crocuses, and then cover over with the same compost to a depth of from 1 to 2 inches, giving a little protection if the weather should turn out very frosty. These bulbs will be growing away nicely, rooting in the rich, rough material; and when you have cleared away the summer and autumn flowers, dug your beds, enriched them with rotten dung, and exposed them well to the air, you can lift your bulbs with little balls adhering to them, and place them in the best circumstances for their vigorous growth. This plan would also answer well for balconies, vases, &c., as the bulbs would be growing freely when planted.

7th, For whatever use bulbs are intended, the sooner they are planted permanently, or, as in the last case, temporarily, the better they will succeed. They will always bloom weaker in proportion as they are wasted by exposure to air, and roots and stems are made before planting. These processes are then essentially wasting ones, and the bulb has no chance to help itself by catering for the means of continued existence.—R. F.

COVENT GARDEN MARKET.—SEPTEMBER 22.

We have no alteration worth recording, and last week's remarks apply generally to this.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	0	8	0	0	Melons..... each	2	6	5	0
Apricots doz.	0	0	0	0	Neotarnes doz.	2	0	4	0
Cherries lb.	0	0	0	0	Oranges 100	13	0	20	0
Chestnuts bush.	0	0	0	0	Peaches doz.	2	0	6	0
Currents ½ sieve	5	0	6	0	Pears (dessert) . . . doz.	1	0	8	0
Black do.	0	0	0	0	kitchen doz.	1	0	2	0
Figs doz.	1	0	2	0	Pine Apples lb.	8	0	5	0
Filberts lb.	0	6	1	0	Plums ½ sieve	7	0	0	0
Cobs 100 lbs.	0	8	1	0	Quinces ½ sieve	0	0	0	0
Gooseberries . . . quart	0	0	0	0	Raspberries lb.	0	0	0	0
Grapes, Hothouse . lb.	3	0	5	0	Strawberries lb.	0	0	0	0
Lemons 100	6	0	10	0	Walnuts..... bush.	10	0	14	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes each	0	8	0	4	Leeks bunch	0	8	0	0
Asparagus bundle	0	0	0	0	Lettuce..... per score	1	0	1	6
Beans, Broad bushel	0	0	0	0	Mushrooms pottle	1	6	2	6
Kidney .. ½ sieve	2	0	8	0	Must.& Cress, punnet	0	2	0	0
Beet, Red doz.	2	0	8	0	Onions . . . doz. bunches	4	0	6	0
Broccoli bundle	1	0	1	6	Paraley ½ sieve	2	0	6	6
Brus. Sprouts ½ sieve	0	0	0	0	Paranips doz.	6	9	1	3
Cabbage doz.	1	0	2	0	Peas per quart	0	9	1	0
Capsicums 100	2	0	8	0	Potatoes bushel	2	0	4	0
Carrots bunch	0	4	0	6	Kidney do.	8	0	4	0
Cauliflower doz.	2	0	6	0	Radishes doz. bunches	0	6	1	0
Celery bundle	2	0	8	0	Rhubarb bundle	0	0	0	0
Cucumbers each	0	4	1	0	Savoy doz.	0	0	0	0
pickling doz.	2	0	0	0	Sea-kale basket	0	0	0	0
Endive doz.	2	0	0	0	Shallots lb.	0	8	0	0
Fennel bunch	0	8	0	0	Spinach bushel	2	0	8	6
Garlic lb.	1	0	0	0	Tomatoes..... per doz.	1	0	2	6
Herbs bunch	0	8	0	0	Turnips bunch	0	4	0	0
Horseradish .. bundle	2	6	4	0	Vegetable Marrows dx.	0	9	1	0

TRADE CATALOGUE RECEIVED.

William Bull, King's Road, Chelsea, London, S.W.—Retail List of New, Beautiful, and Rare Plants.

TO CORRESPONDENTS.

VIOLAS CORNUTA, LUTEA, AND MONTANA (N. K.).—You can procure plants of *V. cornuta* true from the Messrs. E. G. Henderson. *Lutea* and *montana* are not yet in the trade, but it is to be hoped that Mr. Tyerman, of the Liverpool Botanic Gardens, will place his surplus stock in the hands of some nurseryman, so that these valuable bedding plants may be distributed to the public as speedily as possible. They are perfectly hardy, and do not require the slightest protection during the winter months.

SCALE ON OAK LEAF (W. H. C.).—They are known popularly as Oak sapplings, and are caused by a minute insect—a Cynips—called *Diplolepis lenticularis*. In the centre of each scale a grub is hatched.

NETS (Hugh).—The specimens are common Filberts, one being the usual white-cuticle, and the other the red-cuticle variety.

HEDGES (Enfield).—In No. 87, Vol. III., of our New Series there is a long communication by Mr. Robson upon the subject.

BEDDING ROSES (T. G. Orton).—Maréchal Niel will not do as a bedding Rose—in fact, Tea-scented Roses are not adapted for the purpose. It is a free bloomer. *Marguerite de St. Amand*, *Duchesse de Caylus*, *Dr. Andry*, *Mademoiselle Marguerite Dombain*, and *Alfred Colomb* are more likely to be good bedding Roses.

SHRUBS FOR PLOT OFTEN COVERED WITH WATER (Flora).—Alder, Willow, and Dogwood generally will succeed, while most evergreens like a place the reverse to that which you mention. You may try *Privet* of various kinds, *Box*, *Portugal Laurel*, and *Juniperus recurva*, but we are not sure that the *Portugal Laurel* will do; *Aucuba* also does not succeed amiss in a damp place. Try also *Ribbon Grass* and *Arundo conspicua*.

FUCHSIA LEAVES BLIGHTED (A. R. McGuire).—The leaves are very severely attacked by the thrips. Write to Messrs. Webber & Co., Covent Garden Market, for the information you require.

GLADIOLI AT THE CRYSTAL PALACE.—Has Mr. Prince ever read the story of the two knights and the gold and silver shield? Has he ever read the dispute about the battle of Sadova or Konigrats, and the confusion that arose about Klum? If so, he will see that people may dispute and argue about the same thing, and both be right and both wrong. Now, as one of the Judges of the Gladioli, I think I ought to know, and I can assure Mr. Prince that Mr. Kelway did obtain first prize for the collection, and that he obtained an equal first prize, not so much for the collection as for the trouble of arrangement and number of blooms exhibited.—D., *Deak*.

VINE ROOTS IN OUTSIDE BORDER (A. Henderson).—If the roots of your Muscat Vines have not descended too deep, which we rather think they have, the covering of your borders with sashes, say from September, or even earlier, up to May, will do away with the effects of excessive wet, and by putting on beneath the sashes about 18 inches of dry litter, fern, &c., by the end of September, there will be enough of heat in the border to commence forcing about February and onwards. If you wish to force earlier, hot dung a foot deep may go under the litter. Any simple means to take the end of the sashes will do. With a regular frame or pit over the border it might be useful for keeping many things, besides the roots of the Vines, and then the proposed hot-water pipe round the outside of the border would be useful for keeping out frost; otherwise we do not think the pipe will be of much use to the Vines, either above ground or sunk beneath it. If the pipes had gone through open rubble beneath the border for the Vines, and there had been a circulation of air through that rubble, it would be a different affair. We would try what the sashes would do first. See "Doings of the Last Week," page 206, and article by "H." as to wood and asphalt covers.

VINEY (W. Turner).—Your hipped-roofed viney as proposed will have all and more than the advantages described in the reply to "H. W." at page 197, which see, and also the comment on that answer by "H." at page 236, to-day. We should prefer pillars to arches if you can secure a strong sill, and have the earth kept close up to it if there be no danger from mice and rats getting under it. The border could slope from the sill both outside and inside as you have shown by your lines. Such a house we would plant in front, about 2 feet from the front outside, and also against the back wall. We would prefer fourths British sheet to ribbed or rough glass, but thirds would give you a better glass, and if the place is exposed to hail storms at all you would be safer with 21-oz. glass at about one-third more in price. As your borders inside dip to the pathway, a good drain beneath that will be desirable, as well as outside. You need not make the border outside at all the first year or two.

PANSY (H. Wilson).—Neither the dried specimen nor note was received.

HEATING A GREENHOUSE (M. D., Manchester).—The keeping out frost from a small greenhouse over a newly-erected room by means of the flue from a stove in that room passing through the greenhouse, will depend upon the fire used in the room to heat the flue. A close stove would do this better than an open fireplace. In either case a fire would have to be kept in the room, on cold nights especially, until the flue in the greenhouse was warmed. This being done, we see nothing to prevent the plan answering. The positions of the room and the greenhouse are the very best for heating by hot water by means of a close boiler fed from the greenhouse, but the flue is, perhaps, simpler. We think a simpler plan still would be to have a small iron stove in the greenhouse in winter, with a funnel through the roof, and remove it altogether in summer, say after the 1st of April, but then that would require a little nicety in management to avoid dust and smoke, &c. The flue would, on the whole, give least trouble in the house, and by the time it reached the level of the floor of the greenhouse it might be made of iron or earthenware pipes 8 inches in diameter.

WOOD OF VINES MILDEWED (T. H. W. D.).—We have seen bad effects from using bones with flesh adhering to them in constructing Vine borders. We approve of your proposal. We would plant inside, and as the mildewed Vines have only been planted a twelvemonth we would prefer fresh Vines instead of those mildewed, though we have little doubt that when treated differently the mildew would be no more seen. Still, for all the value of the Vines, it is better to avoid the risk.

MEN REQUIRED FOR A FLOWER GARDEN (Nescio).—Your "flower garden of 8 acres, a large portion of which is in grass, with a little shrubbery, and a good portion in flower-beds; also four large vineries to come in successively, two large Peach-houses, a large greenhouse and stove, and an orchard-house 80 feet long" will require eight men—that is, presuming the flower garden to be laid out in the picturesque style. Where there is a large area in grass in comparison to that occupied by the clumps of trees and shrubs or beds of flowers, that part will be kept in order by four men, the grass being mown by a machine, and gone over once a week. If it is laid out in the geometrical style, with many gravel walks, grass chiefly predominating, then eight men will not be too many; and if the beds and borders for flowers be in proportion to the extent of the grounds on the symmetrical mode, a like number of hands would be required to keep it in good order. The houses would require four men if they are what we understand by large. If we form a correct view of the place, we think a head gardener, an under gardener or foreman, a journeyman, an apprentice, and four labourers would be what you require; but the style of the garden, its extent of beds and bedding-out, walks, &c., being unknown to us, we cannot do more than give an approximate estimate of the labour required.

ACHIMENES DONE BLOOMING (K. M.).—Keep them moderately supplied with water, reducing the quantity by degrees, so as to leave it off by the time the foliage has assumed a yellow hue. Afford them a light and airy situation, quite as much so, if not more, after flowering as before, and when the stems are decayed and yellow, or withered, cut them off at the surface, and keep the roots in the soil in the pots, and in a house having a temperature of from 40° to 45°, giving no water until potted again for starting into growth.

CYCLAMENS LYING UNDER A NORTH WALL (Idem).—Have them potted at once without disturbing the ball more than by removing the drainage and any soil that comes away easily, and see to providing good drainage. If of the *C. coum* family, pot so that the crown of the tubers may be covered with an inch of soil; but if *C. persicum*, it will suffice if the crown be only just covered. Place in a cold frame on coal ashes, keeping moist but not very wet, exposed in favourable weather, but protected from heavy cold rains, and from frost, and when the weather becomes so cold that they can no longer be kept in the frames, remove to a light airy shelf in the greenhouse.

LOMARIA FLUVIATILIS CULTURE (A Constant Reader).—The soil should be composed of equal parts of turfy peat, turfy yellow loam, and pieces of gritstone broken in pieces the size of a hazel nut, the small not being sifted out but mixed with the compost. This, well mixed, chopped with a spade, and made rather fine, will answer perfectly. The pot should be drained to one-third its depth; the drainage may consist of pieces of sandstone with the finer particles sifted out. Pot the plant in March, but should it become sickly at any other period of the year, pot it at once. A rather shady situation is desirable, but not so much so as for Ferns generally, and during growth the watering should be liberal, and at no time ought the soil to be otherwise than moist, and this moist condition should be accompanied by a corresponding amount of atmospheric moisture—abundant when growth is being made, and somewhat diminished when the growth is complete. It requires the temperature of a greenhouse.

HOP PLANT PROPAGATING (Alpha).—The Hop is propagated by division or parting the roots in autumn or spring, the latter being the better time. The divisions, which should have some eyes at the crown, and a portion of root, may be planted a foot apart against the trellis you propose covering. The Hop may also be increased by cuttings of the shoots of the previous year, taking them off at the crown, with a heel, and this is best done in March. Plant them in the same way as the divisions in rich, deep, loamy soil.

STAGNANT POND (A Subscriber).—You may to a certain extent prevent its becoming stagnant by having it well cleaned out, covering the bottom with from 8 to 12 inches of gravel, and before letting in the water planting a number of aquatic plants. These and some water-fowl will render it less liable to become stagnant, the fowls keeping the water in motion.

DESTROYING CRICKETS (S. Rodgers).—Your best plan is to lay poison for them, and that is readily done by spreading phosphorus paste on slices of bread in the same manner as butter on bread, and lay these at night near their haunts, removing the poisoned pieces of bread in the morning and burning them. The crickets, if they partake of the phosphorus paste, will be lying dead near it. Being very partial to oatmeal, this may be given them mixed with arsenic at the rate of one ounce of arsenic to half a pint of oatmeal, adding a little ground aniseed and caraway seed. If these ingredients be mixed and laid on pieces of paper in convenient places (at night only, or where no domestic animals have access), the crickets will partake of them greedily. You will best succeed by tempting them with the oatmeal and aromatics only for a night or two before offering them the poisoned mixture.

SELECT WHITE HYBRID PERPETUAL ROSES (Learner).—Alba Mutabilis Madame A. de Rougemont, Louise Dussane, Sour des Anges, Mlle Bonnaire, Madame Freeman, Impératrice Eugénie, Louise Magnus, Virginal, Princess Liechtenstein, and Madame Rivers.

HOPS (Kent).—They are the seed-vessels of the female flowers of the Hop plant, *Humulus lupulus*. It is a native of Great Britain; but Hops do not seem to have been used in making beer until the 15th century. Duty was paid on Hops in the 32nd of Henry VI.'s reign. Ale seems to have been brewed from malt without the addition of Hops, but beer had both for its ingredients. Hops were used for brewing on the Continent before they were so used in England; and Walter Blith, writing in 1685, twits the citizens of London for "not many years since having petitioned Parliament against two nuisances—Newcastle coals, in regard of their stench, and Hops in regard they spoil the taste of drink, and endanger the people!"

MRS. CHITTY.—Thirty stamps in a letter, post mark "Worcester," have been received and forwarded.

DEODORISING (L. P.).—The earth is the best and cheapest deodoriser. Have a vulcanised Indian-rubber tube to fix on to the nozzle of the pump, and long enough to reach to wherever the liquid has to be applied. The earth will soon remove the smell. We know of many gardens where the cesspool's contents are used for fertilising, but we never before heard of a gardener so delicate as to be rendered sick by the application.

PROPAGATING MRS. POLLOCK GERANIUM (M. J. B.).—You will best succeed with this by potting the cuttings singly in small pots, draining them well, and using a compost of peat, loam, and sand in equal parts. Make a hole in the centre of the pot, and after dropping in some silver sand let the base of the cutting rest on it, and fill up the opening round it with the same material. Water sparingly, and place in a mild hotbed, or on a shelf near the glass, in either case shading. Avoid frequent waterings, otherwise the cuttings will damp off. Cuttings strike much more readily in spring than autumn. There will be full notes next week on Grapes shanking and spotting.

TOSACCO GATHERING AND DRYING (Preston).—When the leaves begin to assume a yellow colour cut off the plants by the root, and hang them up separately in a dry, shady, and airy place. When the leaves become dry and crisp remove them from the stalk the first wet weather afterwards, as they will then become soft, and pack them evenly in a box, pressing them moderately. In a few days they will heat slightly, then open them out and shake them to let the heat escape; repack lightly, and when all appearance of fermentation is past store them in a box or barrel. The stalks, cut into small pieces, may be employed along with the leaves for fumigation.

HOUSING CAMELLIAS AND AZALEAS (Idem).—It is now high time to house these plants, the late and prevailing heavy rains and cold being anything but good for them.

DIVIDING TRITOMA UVARIA (W. B.).—You may take up the roots and divide them now, but it would be more safely done in early spring.

COSSIGNIA BORBONICA (A Regular Subscriber).—It is known to gardeners usually as *Rulsia aurea*, having golden-coloured nerves to its leaves. It is an old and but rarely-cultivated fine-foliated plant, and as such is good for exhibition.

FORMING A GARDEN AND PLANTING FRUIT TREES NEAR THE SEA (Pegwell).—We fear if you have the house to build on a quarter of an acre of land the builders will occupy almost the whole of the ground with their materials, so that it would be better to let them finish their work before commencing gardening operations. If, however, you do anything, begin with the portion of the ground farthest from the intended building, and fence off the part in cultivation at once, or you will find it invaded. Assuming the house to be built, you may consult a recent article by one of our correspondents on the mode of turning to account what refuse the builders may leave in making the walks which you will require. Very possibly a portion behind your house and the highway, if it face one, will be wanted for ornamental purposes; but if not, we would advise you to crop the ground most directly in front with Strawberries, Gooseberries, and Currants, while behind the house the larger-growing fruit trees, as Apples, Pears, and Plums, may be planted; also the larger-growing vegetables. Generally speaking the Broccoli and Cabbage tribe do well near the sea, and so do Potatoes, Asparagus, and Sea-kale. Respecting the culture of these, directions are given in our back Numbers. We fear, however, your space is too limited to advise many fruit trees being planted, but the following varieties are good—viz., King of the Pippins, Dumelow's Seedling, and Sturmer Pippin Apples; Williams' Bon Chrétien and Marie Louise Pears; and Orleans, Magnum Bonum, and Goldth Plums. Against the east wall of your house you may plant a Morello Cherry, and a May Duke against the west side, while on the south a Shipley or Brussels Apricot might be planted, as well as a Peach if the situation be good. If you preferred this side to be ornamented with some showy creeper, you might have a yellow or white Banksian Rose, Passiflora cerulea, Jasminum nudiflorum, Pyrus japonica, and Ceanothus auratus. You may, perhaps see an article on this subject in an early Number.

APPLES, PEARS, AND PLUMS FOR DWARF STANDARDS OR PYRAMIDS (A Subscriber).—The following Apples are all good, and include both early and late kinds, as well as for kitchen and table use:—Alfriston, Bedfordshire Foundling, Blenheim Pippin, Cellini, Court of Wick, Dumelow's Seedling, Early Harvest, Quarrenden, Hawthornden, Golden Harvey, King of the Pippins, Sturmer Pippin, Yorkshire Greening, and French Crab. Twelve Pears may consist of Beurré de Rance, Beurré Diel, and Easter Beurré, Althorp Crassane, Aston Town, Williams' Bon Chrétien, Citron des Carmes, Jargonelle, Louise Bonne of Jersey, Marie Louise, Winter Nells, and Ne Plus Meuris. Twelve Plums might consist of Coe's Golden Drop, Gollath, Green Gage, Kirke's, Diamond, Jefferson, Yellow and Red Magnum Bonum, Early Orleans, Pond's Seedling, Reine Claude de Bay, Victoria, and Washington, all good and likely to do well on open standards in a favourable situation.

VINES IN POTS (Onesiphorus).—You can have the "Vine Manual" free by post from our office if you enclose thirty-two postage stamps with your address. It contains a chapter on the culture of Vines in pots. Black Hamburgs will succeed well in a greenhouse.

VIOLA CORNUTA (Young Soldier).—It is the correct kind. The Plocee is one of the common border varieties and unnamed.

TRANSPLANTING OLD ASPARAGUS (Cotford).—We would advise you to plant young rather than old Asparagus plants, as the latter seldom prove satisfactory. If, however, you prefer the latter, March is the best time to transplant, taking care to have the ground in order beforehand. You may also fill up gaps in old beds at the same time, but, like planting old plants elsewhere, this process is seldom satisfactory. When beds exhibit many blanks it is better to dig them up in winter and force the roots, having in the previous season prepared other beds to take their place. This question and answer were accidentally mislaid.

NAMES OF FRUIT (Surrey).—*Peach*: Late Admirable. *Nectarine*: The true Red Roman, not now esteemed, being a clingstone. *Apples*: 4, Ribston Pippin; 5, Old Nonpareil; 6, Scarlet Nonpareil; 7, Boston Russet; 8, Herefordshire Pearmain. *Pears*: 1, Aston Town; 2, Easter Beurré; 3, Beurré de Rance; 5, Passe Colmar; 6, Chaumontel; 7, Knight's Monarch. (*A. X. O.*)—Autumn Bergamot Pear. (*A Subscriber, Ballinacloe*).—Beurré d'Arenberg Pear. (*John Middleton*).—Nonsuch Apple.

NAMES OF PLANTS (G. L.).—1, *Acer negundo variegatum*; 2, *Dammacanthus*? (*A. J. B. C.*).—*Eucomis punctata*, it is not a native of Australia but of South Africa. (*A. M. R.*).—*Cupressus Lambertiana*, we believe. (*A Lover of Ferns*).—We cannot name Ferns from your descriptions nor sketches, and the fragment sent was totally insufficient for determination. (*B. G.*).—*Seiaginellas* are very difficult to name from small specimens, and the following are only approximations:—1, *S. cuspidata*; 2, *S. Galeottii*; 4, *S. stolonifera*; 6, *S. caesia*; 7, *S. Martensii*; 8, *S. microphylla*; 10, *Ceterach officinarum*; 11, *Asplenium trichomanes*. (*A Constant Reader*).—3, *Sedum album*; 8 and 4, *vars. of Sedum spurium*; 5 and 6, *Adiantum hispidulum*; 7 and 8, *Chellanthus tenuifolia* or allied; 9, *Asplenium (Diplazium) sylvaticum*? (*Margaret*).—1, *Hypolepis anthriscifolia*; 2, *Aspidium molle*; 8, *Athyrium Filix-femina*; 4, *Doodia media*. (*A. X. O.*).—3, *Funkia subcordata*, or *Hemoroacallis japonica*; 5, *Saxifraga sarmentosa*. It is not possible to name with certainty plants not in flower.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending September 22nd.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun... 16	29.592	29.152	68	48	59	58	S.W.	.04	Fine; overcast; showery; overcast, rain.
Mon... 17	29.887	29.607	66	30	59	58½	W.	.02	Fine; masses of low white clouds; fine; slight showers; below
Tues... 18	30.086	29.915	66	51	58½	58	S.W.	.02	Heavy clouds; fine; overcast. (freezing at night)
Wed... 19	30.046	29.898	67	44	59	57½	S.	.08	Partially overcast; cloudy; showery at night; fine.
Thurs... 20	29.947	29.587	61	42	59	57	S.	.12	Overcast; cloudy; boisterous with rain at night.
Fri... 21	29.581	29.577	62	48	59	57	S.W.	.50	Boisterous; fine; dusky low clouds; heavy rain.
Sat... 22	29.846	29.172	65	39	59	57	S.W.	.10	Rain; cloudy and wet; overcast at night.
Mean	29.768	29.557	64.00	41.71	58.96	57.57	..	0.88	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

ROUGH NOTES ON ERRORS AND OMISSIONS IN THE POULTRY CLUB'S "STANDARD OF EXCELLENCE."

(Continued from page 231.)

THE GINGER RED GAME FOWLS.—The "Standard" here describes the wrong sort as the Ginger Reds, the sort described by the "Standard" being the Ginger Brown Reds, and not the true Ginger Reds.

GINGER BROWN REDS.—*Cock*.—General colour a light brassy yellowish red colour. Comb and face inclining to dark purple or gipsy colour. Eyes, very dark blackish brown, or black, and full. Neck-hackle, as general colour, thickly striped with black. Breast, light ginger red brown. Thighs, the same. The rest as in the Brown Reds and as in the "Standard."

Hen.—General colour much as in the "Standard," though it cannot certainly be called a ginger colour at all, being merely a lighter shade of the Brown Red hen, of which this sort is only a sub-variety. Comb and face, dark gipsy purple, darker than the cock's. The "Standard" has described the hen's colour well, but the colour is so near to the lighter Brown Red, that the term Ginger Red becomes an improper term to use.

The true Red-breasted Ginger Red "cuts out" lighter than the last-mentioned bird, has red or yellow eyes, and yellow or white legs, and the hen is of the real ginger colour on a light ground. The cock is quite red, when red-eyed.

DUCKWING GAME FOWLS.—Duckwings should be classed as follows, as a rule:—*Yellow Duckwing Game* (yellow-skinned).—1. Willow-legged, dark red eyes (the prize sort). 2. Yellow-legged, yellow or daw eyes (the true Yellows). The Willow-legged are sometimes Silver Duckwings. *Silver Duckwing Game* (white-skinned).—1. Blue-legged, dark red eyes. 2. White-legged, yellow or daw eyes. Not very common in general.

YELLOW DUCKWING GAME.—*Cock*.—General colour a straw colour. Eyes, red or yellow. Back, either straw colour or a coppery colour. Wings with steel-blue bar. Breast, bluish black. Tail, greenish black. Legs, willow or yellow.

Hen.—General colour bluish silver grey pencilled. Breast, pale fawn colour. The rest as in the "Standard. The Yellow Duckwings are a yellow-skinned bird. There are also the Mealy Duckwing Greys as well.

SILVER DUCKWING GREYS.—*Cock*.—General colour a silvery or silver grey. Eyes, red or pale yellow, nearly pearl colour. Back, silver grey. Wings, with steel-blue bar. Breast, bluish black. Tail, greenish black. Legs, white or blue, but sometimes willow. The Silver Duckwings should be white-skinned. Breast of the cock often of a clear mealy or silver colour.

Hen.—General colour bluish silvery grey, pencilled. Breast,

silver fawn colour, or a clear mealy silver colour; the rest as in "Standard," and to match the cock bird.

BIRCHEN YELLOW GAME.—The description in the "Standard" is much too promiscuous, the true Yellow Birchens being very yellow in colour, with only yellow legs and yellow or daw eyes. The Dark Birchens and the famous Dark Greys should have been described here, being both exhibition birds, which the Yellow Birchen is not, being now a rare bird. The Dark Greys should not have been missed, being the hardiest and best of all Game fowls, not excepting the far-famed and well-known Brown Reds.

THE PILE GAME FOWLS.—*Cock*.—General colour bright red and white, and not a chestnut red as in the "Standard," the bright red birds being more spirited and better than chestnuts. Eyes, bright red, all other colours (as yellow), inferior. Back, very red-coloured, but a little piled or pied; the reddest-coloured and brightest-coloured Piles are best. Breast, with less red than the hen's breast. Thighs, white. Tail, white, sometimes a few red feathers. Legs, white only, being the true Cheshire "Standard" Piles; yellow, willow, and blue legs inferior. Yellow-legged Piles, if red-eyed, are good birds, but yellow-eyed are not. There are also lemon, orange, and ginger Piles, all inferior to the Cheshire Pile, and all with yellow eyes in general.

Hen.—General colour white, veined and streaked with red. Breast, redder than cock's; bright red the best; the reddest hens best; less red than cock altogether; the rest of the description as in the "Standard."

WHITE GAME as in the "Standard," but legs white only, and never yellow, willow, or blue. Eyes, bright red.

BLACK GAME as in "Standard," but often gipsy-purple in face and comb. Legs as black as possible, bluish-black the best. Cocks often brassy-winged.—**NEWMARKET.**

(To be continued.)

DORKING POULTRY SHOW.

THERE is an originality about this proposed Exhibition which commands a special notice. It is to be held at Dorking in December next, and no other gallinaceous fowls are to be shown except Dorkings! There are two cups, of the value of £10 each, for Coloured Dorkings; and there are three prizes in each class for Coloured Dorkings, Blue-speckled Dorkings, and White Dorkings. There are, besides, two prizes in each class for Ducks, Geese, and Turkeys.

We incline to encourage such single-variety exhibitions, but fear that it may not tend to the enrichment of the Committee's exchequer. At all events we are glad at this special distinction for the fowl which is the very best for table purposes, and which, we believe, was the variety introduced by the Romans. Dorking was celebrated for its poultry more than a century

since, for in 1763 a gentleman remarked "the incredible quantity" sold there.

There is a breed in the hill districts of Cumberland resembling Dorkings in all respects except uniformity of colour, and we recently saw on the banks of Holy Loch, near Dunoon, some Scotch Dumpies, or Bakies, or Creepers, as they are called, resembling in every respect, even in size, except in length of shank, the pure Dorking. Roman stations were near all these localities, and may have originated all these local breeds.

MIDDLETON POULTRY SHOW.

THE eighth annual Exhibition of the Middleton Agricultural Society was held in the grounds behind the Rectory at Middleton, near Manchester, on Thursday, the 20th inst. The number of entries was two thousand, and embraced Horses, Pigs, Sheep, Poultry, Dogs, Pigeons, Rabbits, Canaries, and Bees, besides flowers, fruit, seeds, and roots. The Show was largely visited, upwards of twelve thousand people being on the ground; the rain, however, which fell heavily in the afternoon, rendered the show-ground a perfect quagmire. The poultry and Pigeons were in pens without any covers, and from exposure to cold and wet, many of them will be some time before they recover, and, no doubt, several valuable birds will be lost, more particularly as the Show is exclusively for young birds, except in the case of Bantams and Pigeons.

At this Show a system of double numbers is in use; but the arrangements for such a large Exhibition necessarily require immense labour in detail, and we observed several birds in the wrong classes, while others were not penned in time for the Judges, and in some instances birds did not arrive in time, exhibitors probably considering the rule, that all specimens should be on the ground the previous evening, would not be strictly carried out, and risked their birds to arrive early in the morning. In some cases, also, birds were forwarded where entries had been made without direction labels having been sent by the Secretary, either through error or too late entry, and the owners found that their entries did not appear in the catalogue. As an instance of the disappointment and annoyance to exhibitors, it may be mentioned that in the cup class for pairs of Game pullets, a pair, subsequently pronounced by the Judges to be unquestionably the best on the ground, were not entered in the catalogue. In working out an elaborate and intricate system extreme care and attention should be adopted to prevent mistakes, and we doubt not the Middleton Committee will do their best to meet the requirements of exhibitors in future.

Black-breasted and other Red Game chickens were the first on the list. The first prize and cup for the best pen of Game were awarded to Mr. Statter for an early pen of Brown Reds; the second prize went to Black Reds, the cockerel being remarkable for quality and brilliancy of plumage; and good Black Reds were third. In single cockerels, Black Reds had both prizes. In any other variety, Mr. Norbury was first with Duckwings, but the pullet was very short-legged and poorly shaped; the second prize went to Sir St. George Gore for a stylish pen of Duckwings, rather short of condition; and the third to Piles. In single cockerels a good Pile was first, and a Duckwing second. The class for pairs of Game pullets was large. Mr. Brierley won the cup with good Black Reds.

The Spanish were neither numerous nor remarkable for quality, excepting the prize birds. The birds in Mr. Williams's first-prize pen were very fine, and, considering they had travelled from Dublin, were in capital trim.

Dorkings were a good collection. Sir St. George Gore had the cup for a good pen in a very severe competition, the Duke of Newcastle, Messrs. Statter, Parsons, Copple, Lingwood, and Walker each showing first-class pens. Messrs. Stott and Farrington had the prizes for cockerels, and the Duke of Newcastle was first for pullets with a splendid pair.

Brahma classes were good, although some of the pens were rather indifferently matched. Mr. Roberts and the Duke of Newcastle had the first prizes; the other prize birds were also good.

Buff Cochins were a large entry. Mr. Fenton took the cup with a very large early pen, the Rev. C. Spencer was second, and Mr. Jennison third. Mr. Lingwood's highly commended pen was also particularly good, and worthy of a position. The Hon. Mrs. Sugden was first for pullets, and Mr. Stott first for a good cockerel. In Cochins Any other variety, Messrs. Rodbard and Stevens's prize birds were well worthy of the places they obtained.

The Hamburgs were numerous, the Silver-pencilled, Gold-pencilled, and Silver-spangled being unusually good. In the former, three splendid pens were placed, and Mr. Walker's first-prize pen also took the cup for the best pen of Hamburgs. Mr. Pitts's first-prize Gold-pencilled were shown in extraordinary condition, but the pullets were not clear enough in neck. Gold-spangled were rather below the average, and not equal to the other varieties; but the classes contained some very good birds. Blacks were also well represented.

In any other variety, Silver Polands were first, and La Flèche and Crève Cœur took the other positions in cockerel and two pullets.

There was a large competition of Game Bantams. Mr. Morris took the cup for the best cock and two hens, and Captain Heaton second with capital Black Reds. In the class for single cockerels Capt. Heaton won the cup with a magnificent Black Red, good in shape, style, and

colour, and which was claimed at £20; the second prize went to a good Black Red, and the third to a very fine Duckwing. In Bantams Any other variety, the first prize went to Blacks, Whites taking the other prizes.

The Duckling classes were capital. In Aylesburys, Mrs. Seamons had to give way to Mr. Leech for the first and second places, which the pens well deserved. Rouens are unusually good this season, Messrs. Ashton, Anderson, and Leech taking the prizes in the order named with extraordinary pens.

There was a fine display of Pigeons. The Almond Tumblers were a very good class. The Carriers of Messrs. Frith, Else, Crossley, Hedley, and Yardley were first-class. In Pouters, Messrs. Fulton, Thackray, Fenton, and Roys, showed good birds. The Barbs of Messrs. Hedley, Thackray, and Frith were of a very high order. Mr. Fielding's Owls, Messrs. Else and Thackray's Fantails, and Mr. Thackray's Black Trumpeters were also good.

In the selling classes of both poultry and Pigeons, the remarks we have been compelled to make respecting previous shows have evidently had the desired effect, no unfair advantage in claiming having come under our observation. A silver cup was offered for the best three pairs of Pigeons by a few Rochdale amateurs, and brought together some good birds. The cup was awarded to Mr. Henshall, for well-known Manchester birds—namely, Black Carriers, Blue Pouters, and Black (?) Barbs, and they well merited the honour. The Carrier hen is of extraordinary merit, and, perhaps, unequalled in the fancy. The Blue Pouters were also good. Mr. Fulton sent three nice pens of Black Carriers, Blue Pouters, and Almonds, each good. Messrs. Else and Roys also contributed fine pens.

GAME (Black-breasted and other Reds).—*Chickens*.—Cup, T. Statter, Whitefield, near Manchester (Brown Red). Second, J. Rhodes, Manningham, Bradford. Third, C. W. Brierley, Middleton. Highly Commended, F. Sales, Crowle, Lincolnshire; Duke of Newcastle, Clumber. *Cockerel*.—First and Second, C. W. Brierley.

GAME (Any other variety).—*Chickens*.—First, P. Norbury, Bowden Priory, Cheshire (Duckwings). Second and Third, Sir St. G. Gore, Bart., Wirksworth, Derbyshire (Duckwings and Piles). *Cockerel*.—First, J. Holme, Knowsley, near Prescott (Pile). Second, J. B. Pinder, Harpurley (Duckwing). Commended, C. W. Brierley (Duckwing). *Pullets*.—Cup, C. W. Brierley (Black Red). Second, Sir St. G. Gore, Bart. (Brown Red). Third, Duke of Newcastle (Black Red). Fourth, N. Grimshaw, Highfield, Burnley (Brown Red). Highly Commended, T. Statter (Brown Red); C. W. Brierley; R. Pashley, Workop (Piles).

SPANISH.—*Chickens*.—First, R. P. Williams, Glaslin, Clontarf, near Dublin. Second, J. Holme. Third, J. H. Rea, Hull. *Cockerel*.—First, W. Roberts, Halifax. Second, Messrs. Birch & Boulter, Sheffield. Highly Commended, J. Marchant, Hansom Lane, Halifax. Commended, H. Beldon, Gollistock, Bingley; E. T. Holden, Staffordshire. *Pullets*.—First, W. Roberts. Second, Messrs. Birch & Boulter. Highly Commended, N. Cook, Chawbent. Commended, W. Nicklin, Walsall.

DORKINGS.—*Chickens*.—Cup, Sir St. G. Gore, Bart. Second, D. Parsons, Cuderton, near Preston. Third, T. Statter. Highly Commended, W. H. Walker, Shenfield, Brentwood; H. Lingwood, Barking, Needham Market; E. Copple, Eccleston, Prescott; Duke of Newcastle. *Cockerel*.—First, J. Stott, Healey, near Rochdale. Second, S. Farrington, Chat Moss. *Pullets*.—First, The Duke of Newcastle. Second, J. F. Newton, Kirby-in-Cleveland.

BRABMA POOTRA.—*Chickens*.—First, G. H. Roberts, Penwortham, Preston. Second, J. H. Pickles, Bridgeroyd, near Todmorden. Third, T. Pomfret, Houghton Lane, near Preston. Highly Commended, A. O. Worthington, Burton-on-Trent. *Cockerel*.—First, G. H. Roberts. Second, J. Statter, Liskeard. Highly Commended, D. Parsons; J. Statter. *Pullets*.—First, The Duke of Newcastle. Second, M. Brooksbank, Manchester. Highly Commended, J. Hinton, Hinton, near Bath; W. A. Taylor, Manchester; J. K. Fowler, Aylesbury. Commended, E. Pigeon, Lympstone, near Exeter; Mrs. M. Seamons, Hartwell, Aylesbury; G. H. Roberts.

COCHIN-CHINA (Buff and Cinnamon).—*Chickens*.—Cup, A. Fenton, Rochdale. Second, Rev. C. Spencer, Attleboro'. Third, C. Jennison, Belle Vue, Manchester. Highly Commended, H. Lingwood; Rev. C. Spencer. *Cockerel*.—First, J. Stott. Second, Hon. Mrs. Sugden, Nantwich. *Pullets*.—First, Hon. Mrs. Sugden. Second, Captain Heaton, Lower Broughton, Manchester. Highly Commended, J. Stott. Commended, T. Stretch, Ormskirk; C. Jennison.

COCHIN-CHINA (Any other variety).—*Chickens*.—First, J. R. Rodbard, Wrington, near Bristol. Second, Hon. Mrs. Sugden. Third, J. Horrocks, Tonge, near Middleton. Highly Commended, T. Bott, Bury. *Cockerel*.—First, J. R. Rodbard. Second, Hon. Mrs. Sugden. *Pullets*.—First, J. Stevens, Walsall. Second, E. Hamerton, Eland. Highly Commended, J. Wood, Heywood; J. Wellens, Middleton. Commended, E. Hamerton.

HAMBURGERS (Gold-pencilled).—*Chickens*.—First, F. Pittie, jun., Newport, Isle of Wight. Second, H. Beldon. Third, A. O. Worthington. *Cockerel*.—First and Second, I. Huddleston, jun. Commended, Miss M. E. Wrigley, Middleton; H. Beldon. *Pullets*.—First, A. O. Worthington. Second, E. Buckley, Rochdale. Highly Commended, S. Smith, Northwram, Halifax.

HAMBURGERS (Silver-pencilled).—*Chickens*.—Cup, J. Walker, Haya Park, near Knaresborough. Second and Third, H. Beldon, Gollistock, Bingley. *Cockerel*.—First, W. Bairstow, Fearncliffe, Bingley. Second, H. Beldon. *Pullets*.—First, W. Lance-hire, Crow Alley, near Middleton. Second, S. Newton, Chadderton Heights.

HAMBURGERS (Gold-spangled).—*Chickens*.—First, T. Scholes, Thompson Lane, Hollinwood. Second, J. Chadderton, Old Lane, Hollinwood. Third, N. Marlor, Denton, near Manchester. Highly Commended, J. Andrew. *Cockerel*.—First, J. Andrew. Second, H. Beldon. Commended, Hepworth & Coldwell, Horridge, Holmfirth. *Pullets*.—First, N. Marlor. Second, R. Holt, Denton Lane, Hollinwood.

HAMBURGERS (Silver-spangled).—*Chickens*.—First, J. Walker. Second, J. Jackson. Third, H. Beldon. Highly Commended, J. Fielding, Newchurch, Rossendale. Commended, J. Preston. *Cockerel*.—First, J. Fielding. Second, J. Preston. Highly Commended, H. Beldon; A. Woods, Sefton, near Liverpool. *Pullets*.—First withheld. Second, H. Beldon.

HAMBURGERS (Black).—*Chickens*.—First, R. Battersby, Heywood

Second, C. Sedgwick. Third, W. Holt, Little Green, Middleton. *Cockerel*.—First, C. Sedgwick. Second, B. Battensby, Heywood. *Pullets*.—First, Ashtons & Booth, Broadbottom, near Mottram. Second, W. Holt.

ANY VARIETY.—*Chickens*.—First, H. Beldon. Second and Third, National Poultry Company, Bromley, Kent, S.E. (La Flèche and Crève Cœur). *Cockerel*.—First, T. J. Laneasaire, Bull's House, Leigh. Second, National Poultry Company. Highly Commended, H. Beldon; S. Farrington, Chat Moss; National Poultry Company. *Pullets*.—First, P. Unsworth, Sandy Lane, Lorton, near Newton-le-Willows. Second, National Poultry Company (Houdans).

GAME BANTAMS (Any colour).—Cup, J. W. Morris, Rochdale. Second, Capt. Heaton, Lower Broughton, Manchester. Third, R. Gerrard, Chowbent, near Manchester. Commended, J. W. Morris; R. Swift, Southwell; Rev. W. J. Mallor, Colwick Rectory, Nottingham. *Cock or Cockerel*.—Cup, Capt. Heaton (Black Red). Second, R. Charlesworth, Brook's Bar, Manchester (Black Red). Third, J. Fryer, Staveley, Derbyshire (Duckwing). Highly Commended, J. Atkings, Staffordshire.

BANTAMS (Any other variety).—First, J. W. Morris (Black). Second, Mr. St. G. Gore, Bart. (White). Third, H. Draycott, Humberstone, near Leicester (White).

SELLING CLASS.—First, G. H. Wheeler, Middleton (Brahmas). Second, D. Parsons (Dorkings). Third, G. H. Roberts, Penwortham, Preston. *Cock or Cockerel*.—First, G. H. Wheeler (White Cochin). Second, C. W. Brierley (Brown Red Game). Commended, S. Farrington.

DUCKLINGS (Aylesbury).—First and Second, E. Leech, Rochdale. Third, Mrs. M. Seamons, Hartwell, Aylesbury, Bucks. Highly Commended, Mrs. M. Seamons.

DUCKLINGS (Rouen).—First, H. Ashton, Folefield, Prestwick, near Manchester. Second, J. Anderson, Meigle, Forfarshire. Third, E. Leech. Highly Commended, J. Robinson, Garstang.

DUCKLINGS (Any other variety).—First, Sir St. G. Gore, Bart. (Brown Call). Second, E. Hutton, Pudsey, near Leeds (Call Ducklings). Third, J. R. Jessop, Beverley Road, Hull.

GOSELINES.—First, A. Fenton. Second, Mrs. M. Seamons.

TURKEYS.—First, E. Leech. Second, S. H. Stott, Quarry Hill, Rochdale. Highly Commended, E. Leech.

EXTRA STOCK.—Highly Commended, Miss E. B. Brierley (Sebastopol Game).

PIGEONS.

TUMBLERS (Almond).—First, R. Fulton, Deptford. Second, E. E. M. Boyds, Rochdale. Highly Commended, F. Crossley, Eiland, near Halifax.

TUMBLERS (Any other variety).—First, R. Fulton. Second, H. Yardley, Birmingham. Highly Commended, J. Fielding, jun., Rochdale.

BALDS OR BEARDS.—First, J. W. Edge, Ashton New Town, Birmingham. Second, J. Thackray, Petergate, York.

CARRIERS.—Cock.—First, G. H. Roberts, Penwortham, Preston. Second, H. Yardley. Highly Commended, J. Firth, jun., Dewsbury; F. Else, Westbourne Grove, Bayswater, London. Hen.—First, F. Crossley. Second, M. Hedley, Red Hill, Surrey. Highly Commended, G. H. Roberts.

POWTERS.—Cock.—First, R. Fulton. Second, A. Fenton, Rochdale. Highly Commended, J. Thackray; R. Fulton. Hen.—First, J. Thackray. Second, E. E. M. Boyds. Highly Commended, R. Fulton.

BARBS.—First, M. Hedley. Second, J. Fielding, jun., Rochdale. Highly Commended, J. Thackray. Commended, M. Hedley; J. Firth, jun., Webster Hill, Dewsbury.

TURBATS.—First, H. B. Whitaker, Alkington, Middleton. Second, J. Thackray. Highly Commended, J. Thackray.

JACOBIANS.—First, J. B. Pindar, Harpurley, Manchester. Second, C. Samuels, Longsight, near Manchester.

FANTAILS.—First, F. Else, London. Second, J. Thackray. Highly Commended, J. Thackray; C. Cowburn Calls, Leeds.

OWLS.—First and Second, J. Fielding, jun. Highly Commended, M. Hedley; F. Else; J. H. Pickles.

MUNS.—First, H. Yardley. Second, J. Thackray.

DRAGONS.—First, F. Crossley. Second, H. Yardley. Highly Commended, H. Simpson, jun., Meadowfield, Whitby; C. Bulpin, River Side, Bridgewater.

TRUMPETERS.—First, J. Thackray. Second, H. Simpson, jun., Meadowfield, near Whitby.

ANY OTHER VARIETY.—First, J. Thackray (Yellow Magpies). Second, National Poultry Company (Silver Runts). Highly Commended, J. W. Edge, Aston New Town, Birmingham; J. Thackray.

SELLING CLASS.—First, J. W. Edge (Blue Brunsicks). Second, H. Simpson, jun. (Blue Magpies).

BEST THREE VARIETIES OF PIGEONS.—Cup, J. Henahall, Cross Lane, Salford (Carriers, Powters, and Owls).

RABBITS.

SPANISH.—First, E. E. M. Boyds. Second, J. Taylor. Highly Commended, Hanson & Wagstaff, Thorne, near Doncaster.

ANY OTHER VARIETY.—First, C. Rayson (Himalayan Buck). Second, J. Lucas, Wet Rake, Rochdale (Angora Buck). Highly Commended, J. Lawson, Middleton; C. Rayson (Patagonian Doe and Angora Buck); T. Pomfret, Houghton Lane, near Preston.

JUDGES.—Poultry: Mr. Richard Teebay, Fullwood, near Preston; and Mr. Joseph Hindson, Liverpool. Pigeons and Rabbits: Mr. Tegetmeier, London.

CHELMSFORD AND ESSEX POULTRY AND PIGEON SHOW.

THIS Show, from very small beginnings in the way of prize money last year, by good management was a complete success, and produced a small balance in favour of the Committee. This year a most liberal and comprehensive schedule has been issued. There are thirty-seven classes for poultry, including separate classes for Crève Cœur, La Flèche, and Houdan, and ten classes for Pigeons. A silver cup of the value of £5 5s. is offered for the best Game cock of any age or colour. The prizes vary from £2 to 10s., and in the majority of classes ex-

tend to three prizes. The Great Eastern Railway Company have kindly consented to convey birds free on the return journey under the usual conditions. The spacious Corn Exchange with its lofty and well-ventilated roof of glass, the subject of particular notice last year, and so admirably adapted for a poultry exhibition, will be used again.

MORLEY EXHIBITION OF POULTRY AND PIGEONS.

THIS Exhibition took place on Tuesday, the 18th inst., in connection with that of the Morley Agricultural Society. The arrangements for the poultry were exceedingly good for an out-door Exhibition, ample provision being made against the possibility of wet weather, but happily the day was favourable. No doubt, so far as the plumage of the birds alone is considered, this is one of the worst times in the whole year for holding a poultry show; but as it is the season of a public festival at Morley, the choice of date was influenced most probably, rather by the natural desire to secure good receipts by the admission of visitors, than by any other motive.

The entries amounted to three hundred pens, and the display of birds was most creditable; still, as all the old birds were in worse than indifferent plumage, whilst the chickens were mostly not sufficiently matured for exhibition, a lack of condition was almost universal. Scarcely an adult bird had shed half its feathers, and Game cocks with a single sickle-feather, or, perchance, no tail at all, were almost universal. The same, as might be anticipated, was the prevailing feature among Polands, Hamburgs, Bantams, and several other varieties that could be named as breeds of poultry in which purity of feather is all-important.

We regretted much to see a number of pens of fowls evidently labouring under an attack of roup, and as this disease is well known to be highly contagious, several were at once removed. It would have been far better policy on the part of the owners to have kept such specimens under proper restorative care at home than to have thus added to their ailments by still further exposure.

The Golden-spangled were very good, as were the Silver-pencilled Hamburgs, the latter variety taking the Hamburg silver cup, closely pressed by the Golden-spangled. Game fowls were in general so totally out of feather that little can be said in their favour, still some very creditable Black Red chickens were shown; and to a pen of Game Bantams of this colour the silver Game cup was awarded, as by the prize schedule Bantams were equally eligible. The White and the Black Bantams were also good, but in shocking feather. Polands, Spanish, Dorkings, and Cochins were all well represented, but by birds in very bad show trim. In the "Any Variety class" were exhibited some first-rate well-grown Brahma chickens in splendid feather; but the condition of the Houdans, the La Flèche, and Crève Cœur was as bad as it could be.

The Geese were a credit to any show, and it would be useless to expect better, besides which the entries were numerous. The Aylesbury Ducks were preferable to the Rouens, and the extra variety Duck class was one of the best and most interesting in the Show.

The Pigeons, of which there were more than a hundred pens, formed a very popular part of the Show, but the generality were quite unfit for exhibition, the moulting being almost at its height. Most of those shown were in heavy pen-feather, and the sunless weather from midday was evidently very dispiriting to birds in their condition.

There was a very large attendance of visitors, and, therefore, the Show proved a success. We may add, that every attention was given to the wants of the birds competing.

HAMBURGS (Golden-spangled).—First, S. & R. Ashton, Mottram. Second, H. Beldon, Goitstock, Bingley.

HAMBURGS (Silver-spangled).—First, H. Beldon. Second, J. Walker, Hays Park, Knaresborough. Highly Commended, H. Beldon.

HAMBURGS (Golden-pencilled).—First and Second, S. Smith, Northram, Halifax. Commended, F. Hollings, Snap Farm, near Bradford.

HAMBURGS (Silver-pencilled).—First and Cup, J. Walker. Second, H. Beldon. Highly Commended, H. Beldon. Commended, W. Baisstow, Fearncliffe, Bingley.

GAME (Black-breasted or other Reds).—First, H. Snowden, Great Horton, Bradford. Second, J. Hodgson, Bowling Old Lane, Bradford. Highly Commended, Messrs. Church & Houlding, Nantwich, Cheshire. Commended, J. D. Newsome, Batley; J. Fell, Adwalton; Sir St. G. Gore, Bart., Hopton Hall, Wirsborough.

GAME (Duckwings or other Greys and Blues).—First, J. Firth, Halifax. Second, J. Bradford, Bradford. Commended, G. Helliwell, Walkley, Sheffield.

GAME (Whites or Piles).—First, Sir St. G. Gore, Bart. Second, W. Walker, Gomersall.

GAME (Black or Brassy-winged).—First, J. Ibbetson, Great Gomersall. Second, J. D. Newsome.

BANTAMS (Game).—First and Cup, R. Charlesworth, Brook's Bar, Manchester. Second, T. Dyson, Halifax. Highly Commended, J. D. Newsome. Commended, W. Newsome, Leeds; J. Crossland, jun., Wakefield.

BANTAMS (White).—First, E. Hutton, Pudsey. Second, Sir St. G. Gore, Bart.

BANTAMS (Black).—First and Second, E. Hutton.

BANTAMS (Any other variety).—First, S. & R. Ashton. Second, T. Bedford, Gildersome.

POLANDS (Any variety).—First and Second, H. Beldon. Highly Commended, H. Carter, Upper Thong, Holmfirth.

SPANISH.—First, J. Thresh, Bradford. Second, H. Beldon.

DORKINGS.—First, Sir St. G. Gore, Bart. Second, H. Beldon.
COCHIN-CHINA.—First, C.W. Brierley, Middleton, Manchester. Second, J. Dixon, North Park, Bradford. Highly Commended, C. Sidgwick, Riddenden Hall, Keighley. Commended, W. Nussey, Lane End, Birstall.
ANY BREED NOT MENTIONED.—First and Second, J. H. Pickles, Bridge Road, Todmorden (Dark Brahma Pootra). Highly Commended, Sir St. G. Gore, Bart. (Black Hamburgs); G. H. Roberts, Penwortham, Preston (Dark Brahma); J. Coulson, Stanningley (Black Hamburgs).
GEESSE (Any variety).—First, E. Leech, Rochdale. Second, S. H. Stott, Quarry Hill, Rochdale. Highly Commended, O. A. Young, Driffield; E. Leech; C. B. Marshall, Wansley, Leeds.
DUCKS (Rouen).—First, J. Nelson, Heaton Mersey, Manchester. Second, Sir St. G. Gore, Bart. Highly Commended, J. Ward, Adwalton; J. A. Haigh, Morley; J. Nelson. Commended, J. Dixon.
DUCKS (Aylesbury).—First and Second, E. Leech. Highly Commended, J. A. Haigh. Commended, W. Newsome.
DUCKS (Any other variety).—First, C. W. Brierley (Carolinas). Second, Sir St. G. Gore, Bart. (Grey Calls). Highly Commended, E. Hutton (Grey Calls); J. Dixon (Carolinas). Commended, T. C. Harrison, Hull (Mandarin); J. R. Jessop, Hull (Garganeys).

PIGEONS.

CARRIERS.—First, H. Yardley, Birmingham. Second, H. Beldon.
OWLS.—First, J. Thompson, Market Hall, Bingley. Second, H. Yardley.
TURBITS.—First, J. Thompson. Second, R. Dodge, Sheffield. Highly Commended, J. Withinshaw, jun., Nantwich; H. Beldon. Commended, H. Yardley.
BARBS.—First, H. Yardley. Second, J. Thompson. Commended, J. Bywater, Morley; J. Pickles, Slaithwaite.
TUMBLERS.—First, H. Yardley. Second, E. Wilson, Leeds. Commended, J. Thompson.
FANTAILS.—First, H. Yardley. Second, C. Cole, Bowling.
POWTERS.—First, H. Yardley. Second, H. Beldon. Commended, J. Thompson.
NUNS.—First, S. & R. Ashton. Second, J. Thompson.
JACOBIANS.—First, R. Dodge, Sheffield. Second, C. Cole. Commended, J. Thompson; H. Yardley.
TRUMPETERS.—First, J. Firth, jun., Dewsbury. Second, H. Yardley. Highly Commended, J. Thompson.
ANY OTHER VARIETY.—First, J. Thompson (Black Magpies). Second, J. Ross, jun., Morley (Runts). Highly Commended, C. Cole (Archangels, Yellow Dragons); G. Scargill, Morley (Antwerps).

Edward Hewitt, Esq., of Eden Cottage, Sparkbrook, Birmingham, officiated as Arbitrator.

POULTRY SHOW IN THE SOUTH OF ENGLAND.

I SEE by an advertisement that we are to have a first-class poultry show in the South of England at last, and it is to take place in those beautiful grounds, the Swiss Gardens, lying between Brighton and Worthing. The Swiss Gardens' Pavilion, 150 feet long, by 40 feet in breadth, and its sister room, used for refreshments, nearly the same size, form just the place for a poultry show, being covered.

Here is a pattern for all railways. The London, Brighton, and South-coast Railway Company have kindly consented to convey all birds over the whole of their line of rails, both to and from the Show, free of charge, that are not sold; and may the Company have plenty of passengers to remunerate them for their liberality in conveying the birds free. I trust that all poultry fanciers will rally round the South of England Poultry Show.—ONE WHO LIVES IN THE SOUTH.

THE NORTHAMPTON POULTRY SHOW.

THIS Show was held on Wednesday the 19th inst. in the Corn Exchange, a building admirably suited for the purpose, being spacious, lofty, well ventilated, and kept scrupulously clean. Internally the Corn Exchange is quite ornamental, and being lighted from the roof the general appearance of the late Show was most imposing on the first entrance of the visitor; nor did it at all lose interest after the most rigid examination of the poultry exhibited, for more perfect classes could scarcely be met with at any poultry show. The Committee were prompt in all necessary arrangements, and the care and attention paid by these gentlemen to the birds shown was most exemplary. The exhibition pens of Messrs. Turner, of Sheffield, a style of coop offering great facilities for the advantageous inspection of the competing specimens, were secured for the occasion. All the pens were ranged in single tier; and we can safely say that for a show containing not more than five or six hundred pens a more suitable exhibition-room could not be desired than the Northampton Corn Exchange. The Show was in every way a success, and, the weather being fine and sunny, many of the aristocracy, besides a large number of other visitors, were present. The attendance of poultry-breeders from distant parts was unusually good.

Dorkings stood first in the prize schedule, and a most excellent collection they were. The adults, of course, were entirely out of feather from moulting, but the *Dorkings* of 1866 far exceeded the anticipations of most breeders. Many very early and well-grown pens of chickens were shown, and we were glad to observe that not a single instance arose in which a doubt could be entertained as to their being veritable chickens of the current year. The extraordinary development of a

number of these birds, however, proved beyond doubt that neither trouble nor expense had been spared to bring them forward by their relative proprietors. We regretted to find, however, that several of the best pens were losing position by an oversight of their owners in selection; the spurs, standing directly outside the legs, instead of on the inside, being an absolute malformation, and one, too, that experience proves is generally hereditary. This is equally objectionable in pullets as in cocks, and the extraordinary development of spur in many first-rate *Dorking* pullets is one that renders this failing more conspicuous than ever. Although the dark-feathered *Dorkings* proved generally the largest birds, a considerable number of pens of unusually large and well-feathered *Silver-Greys* were present, and obtained high positions in the prize list. Adult *Spanish* fowls cannot be expected when in full moult to possess good faces; in fact, all the adults exhibited afforded the most convincing evidence how much each was suffering under the oppression of the late unfavourable weather. It will in most cases be fully two months hence before they are fit for public exhibition. The *Spanish* chickens, however, made ample compensation for the shortcomings of the old birds, for they were excellent. The remarks just made as to *Spanish* fowls will equally apply to the *Game* fowls. Adult *Game* cocks at Northampton were shown without tails at all, and not a few pens were left vacant from the impossibility, as stated by their owners, of sending them in such miserable plumage. Many of the *Game* chickens will compete closely at the most extensive shows now fast approaching. The *Cochins* were mostly very good, and many of the chickens were well developed. *Hamburgs* were not in large force, nor were they well shown. In any other distinct breed *La Fliche* and *Houdan* fowls took precedence, though some excellent *Dark Brahm*s, *Crève Cœur*s, *Silks*, *Game Bantams*, and several other varieties were well represented.

In *Geese* and *Aylesbury Ducks* the Show was excellent, the *Toulouse Geese* standing first, with most excellent *Embirds* closely pressing them. A remarkably good pen of *Sebastopol Geese* was exhibited, and was, perhaps, one of the most striking features of the Show to those who attended simply as casual visitors. Some splendid specimens of the *Carolina* or *American Summer Duck* in the highest feather were shown in the Variety class for Ducks. These, too, proved themselves to be especial public favourites. There was no competition in *Turkeys*, only one pen being shown, but the birds proved very good poult for the season.

Pigeons were shown in pens of three pairs as a sweepstakes—a very difficult matter just at this time of the year for any Pigeon breeder, on account of the moulting being now just at its highest. Many admirable pens were shown which were thrown out from the shortcomings of a single pair of the three; indeed it was a pity to see good specimens exhibited along with their half-fledged young ones, as the excitement of a public show was calculated to do them great injury. As the rules required that each collection should contain three different breeds the difficulty was still greater for Pigeon exhibitors. It is probable that in a future season some enlargement of the Pigeon classes may be offered as an encouragement to entries in this division of the Northampton Show.

DORKINGS.—First, T. Tatham, Kingsthorpe. Second, Hon. W. Fitzwilliam, Wentworth Woodhouse, Rotherham. Third, H. Lingwood, Needham Market, Suffolk. Fourth, J. K. Fowler, Prebendal Farm, Aylesbury. *Hens.*—First, T. Tatham. Second, J. Longland, Grendon. Highly Commended, Sir C. E. Isham, Bart., Lamport Hall; H. Savile, Radford Abbey, Ollerton; H. Lingwood. *Chickens.*—First, F. S. Arkwright, Etwell Hall, Derby. Second, E. Wood, Clapton, Thrapstone. Third, W. H. Walker, Shenfield, Brentwood, Essex. Highly Commended, H. Savile; F. S. Arkwright; T. Tatham; J. Longland, Grendon; R. Wood; D. C. Campbell, M.D., County Lunatic Asylum, Brentwood, Essex; J. Clarke, Ravenshoe. *Pullets.*—First, H. Lingwood. Second, D. C. Campbell, M.D. Highly Commended, Hon. T. W. Fitzwilliam; H. Savile; W. H. Walker. Commended, T. Rushin, Ravenshoe; D. C. Campbell, M.D.
SPANISH.—First, W. R. Bull, Newport. Second, C. Wright, Northampton. Third, Rev. W. J. Mellor, Colwick Rectory, Notts. Highly Commended, C. Wright. *Hens.*—First, J. T. Parker, Northampton. Second, C. Barber, Walsall. Highly Commended, J. W. Smith, Oundle. Commended, W. R. Bull, Newport Pagnell, Bucks. *Chickens.*—First, C. Barber. Second, W. J. Smith. Third, W. R. Bull. Highly Commended, C. Wright.
GAME (Black-breasted Red).—First, Second, and Third, H. Sheild. Highly Commended, J. N. Beasley, Northampton.

GAME (Brown-breasted and other Reds, except Black-breasted).—First and Second, H. Sheild. Third, J. H. Smith, Horton, Northampton.

GAME (Duckwings, or any other colour).—First and Second, H. Sheild. Third, H. Banks, Worcester. Highly Commended, H. Banks; H. Sheild.

COCHIN-CHINAS (Any colour).—First, T. Tatham. Second, J. N. Beasley. Third, J. K. Fowler. Highly Commended, H. Lingwood. *Chickens.*—First, Rev. C. H. Lucas, the Rectory, Edith Weston, Stamford. Second, J. Barber, Kettering. Third and Highly Commended, J. N. Beasley.

HAMBURG (Any variety).—First, W. Barford, Aylesbury. Second, Hon. T. W. Fitzwilliam.

ANY OTHER DISTINCT BREED.—First and Second, The National Poultry Company, Bromley, Kent (*La Fliche*, *Crève Cœur*). Third, J. K. Fowler (*Brahma* chickens). Highly Commended, Hon. T. W. Fitzwilliam (*Crève Cœur*); H. Savile (*Japanese Silks*); J. Barber (*Game Bantams*); J. D. Bletsoe, Grendon Hall, Northampton (*Game Bantams*). Commended, The National Poultry Company (*Houdan*); J. K. Fowler (*Game Bantams*); Rev. Dr. Sedgwick, Great Houghton Rectory, Northampton (*Game Bantams*).

SINGLE COCKS.

DORKING.—First, D. C. Campbell, M.D. Second, R. Wood. Third, Capt. H. B. Lane, Lily Hill, Bracknell. Commended, H. Lingwood.

SPANISH.—First, J. T. Parker, Northampton. Second, H. & S. Cooper, Walsall.

GAME.—First, Second, and Third, H. Sheild, Northampton.

GREENS.—First and Second, J. K. Fowler. Highly Commended, H. Savile. Commended, The Ladies Wentworth Fitzwilliam, Harrowden House, Wallingborough.

DUCKS (Aylesbury).—First and Second, J. K. Fowler. Highly Commended, J. K. Fowler; Rev. C. H. Crosse, Cambridge.

DUCKS (Rosen).—First, T. Burnaby, Upper Lodge, Pipewell. Second, and Highly Commended, J. K. Fowler.

DUCKS (Any other variety).—First, H. Savile (Carolina). Second, J. Beasley (East Indian). Highly Commended, J. K. Fowler (East Indian); J. W. Smith (Black East Indian).

TURKEYS.—Prize, Sir C. E. Isham, Bart.

FROGGS SWAMPERS.—*Carriers, Oaks and Pouters.*—Prize, H. Yardley, Birmingham. *Maggies, Archangels and Turbits.*—Commended, J. Noble. *Carriers, Yellow Baldheads, Jacobins.*—Commended, J. Adams, Northampton. *Any variety.*—Highly Commended, J. Adams.

A pen of three Spanish fowls, a pen of dark Brahma Pullets, and three Turkey Poults were Commended as Extra Stock.

The officiating Arbitrator was Edward Hewitt, Esq., of Eden Cottage, Sparkbrook, Birmingham.

THE MANCHESTER POULTRY PRIZE SCHEDULE.

We have been favoured with the perusal of a proof sheet of the Manchester prize list, and we can truly say we have never yet met with one so liberal a scale. It is evidently calculated not only to insure most extensive entries from all our principal exhibitors for the Show on December the 21st, but it will also tend to place the breeding of first-class fancy poultry amongst the foremost ranks of popular and at the same time remunerative amusements. In poultry 228 prizes, varying in value from £10 to a sovereign, are offered; forty-eight prizes are to be allotted to Pigeons, ranging in value from £3 down to £1; and the Rabbits enjoy equally liberal premiums.

With such a schedule, no doubt Manchester will enjoy this year an amount of support hitherto unprecedented.

KEEPING EGGS FRESH.

In recent Numbers various modes of keeping eggs have been recommended, all of them, no doubt, more or less good. I am, however, again induced to lay before your readers a plan which I described some years ago, for by it eggs have been preserved good for sixteen months, and I have myself partaken of some kept more than half that time which could not be distinguished from fresh eggs, and such, I am told, answer all the purposes of confectionary where eggs are used, as they can be whipped into the required condition. I do not pretend to say what this is, but I am told that it is a certain test of the freshness of the egg.

The plan being exceedingly simple, cannot fail to recommend itself to all who may be desirous of keeping eggs. It is this: Put the eggs into an ordinary colander, dip them a few seconds in boiling water, and let them dry; then pack them in a box or jar with a lid to it, using dry wood ashes for the packing material, and let the box or jar be quite full, so that it can be turned bottom upwards occasionally—in fact, I presume that it ought to lie as much in that position as in any other. The object of this appears to be to prevent the yolk settling to one side; and I suppose the dipping in hot water hardens the filmy lining of the shell, so as to render it more capable of excluding air. In this view of the matter I may, however, be wrong. Certain it is, nevertheless, that the eggs so treated keep well and as long as they are generally wanted, and the simplicity of the plan is a point in its favour not to be disputed. Probably other materials as well as wood ashes might be used, but of such I have no experience. I am inclined to think that there may be some preservative properties peculiar to the wood ashes; and as these are easily obtained, I would strongly recommend those interested in the keeping of eggs to try the plan and report the result.—J. Robson, *Linton*.

IPSWICH POULTRY SHOW.

In answer to Mr. Hewitt's letter in your Journal of the 11th inst., speaking of the folly of poultry societies holding their shows in the open air, will you allow me to inform him that our Committee have secured the spacious Ipswich Corn Exchange for their Show? The building is light, well-ventilated, and, in fact, a better place I do not think it possible to have. All specimens committed to our charge will thus be

protected from exposure to the vicissitudes of our changeable climate.

As I have been asked what will be the real value of the five-guinea silver cups we offer, permit me to say they are to be the very best we can obtain, our Committee having the promise of them at wholesale prices, and I assure exhibitors that they cost our Society £5 5s. each. Our Committee trust that exhibitors will send as many entries as possible, making our first Exhibition a success, so that we may offer even a better prize list next year.

In answer to "Y. B. A. Z.," when he speaks of the exorbitant charges made to exhibitors for the carriage of fowls, allow me to remind him, as also any intending exhibitor at the Ipswich Poultry Show, which is to take place November 8th and 9th, that the Great Eastern Railway Company are certainly an exception as regards the carriage of fowls; and to show that their charge is very moderate, I may mention having myself a pen of Polands from Louth, Lincolnshire, brought direct to my house, which is nearly two miles from the station, for 1s. 3d. As a further inducement for exhibitors to send their birds, we have obtained through the liberality of the Great Eastern Company their promise to convey all specimens on the return journey to any station on their lines free of charge, provided they remain the property of the sender.—W. B. JEFFRIES, *Hon. Sec., Ipswich Poultry Society*.

HONEY HARVEST—WOODEN-TOPPED STRAW HIVES.

HAVING tried this year for the first time what could be done by a strong stock of bees in a hive built in accordance with directions so kindly and fully given me by Mr. S. Bevan Fox, in answer to my inquiries in No. 186, Vol. VII., New Series, of THE JOURNAL OF HORTICULTURE, I am anxious to lay before its readers the great success (greater, indeed, than I could possibly have expected), which has attended the busy occupants of my new box hive.

On the 18th of last May, shortly before noon, two strong swarms issued forth within ten minutes of one another from two stocks in my apiary; the one was hived in the box hive already alluded to, the other in a strong and well-built straw hive. The latter, however, did not seem at all inclined to settle, and at length, in spite of all attempts to induce the restless colony to remain at home, quitted its habitation for the more costly abode of the more favoured swarm. But little quarrelling took place in the now double stock, for by the morning the busy workers of the two colonies might be seen taking their flight across the fields. Truly may they be said to have improved "each shining hour," for in ten days from the time they began together to collect the materials wherewith to build, without rule or compass, each fragile cell, they gave signs of a want of additional accommodation. This I at once supplied, admitting them on the 28th of May to the large and outer super-covering so admirably adapted for carrying on in regular order the building of their comb and disposal of their stores. Another ten days, and a further space for their work must be given. Gradually the outer box is raised, and with rapidity is each of the eight combs, so well supported on the Woodbury-bar, filled with the nectar drained from many a flower. Again, and again, they needed additional room, and no sooner was it from time to time given, than with greater perseverance they carried on their wonderful work.

At length on the 19th of July, finding that the super-box was becoming well filled, and wishing to compete with other bee-keepers, and to show the extraordinary workings of the busy bee at the horticultural show held at Stowmarket, on the following day, the 20th, I, duly prepared, undertook with the assistance of an energetic apiarian, to remove from the super the many thousands of bees still clustering on the combs, and yet busy at their work. This, as it proved, was not altogether an easy task, for her majesty the queen bee was there in the midst of her devoted subjects, and as she would not be persuaded to quit with them, I was compelled to resort to force (by fumigation). Her majesty was at length captured and returned to her disconsolate subjects in the stock hive, whilst the rest of them, as best they could after recovery from the intoxicating fumes, found their way back to their misused sovereign.

Having thus quietly, though with some little difficulty, expelled the refractory multitudes, nothing remained but to ascertain what in reality the bees had done for me from the

28th of May to the 19th of July. The large and heavy box was placed upon the scales, and I found to my surprise that my busy little favourites had given me in comb and honey 61 lbs. nett weight. Such is my experience of the use of a box hive, and outer-box super on the Woodbury eight-bar system. This result in some neighbourhoods may not be thought extraordinary, but in this district and at the horticultural show before alluded to, it was regarded as a marvel by admiring crowds, and won for me the "first prize for honey by deprivation."

Now, that I am upon the subject of bees, I would venture to place before the many who take an interest in apian matters the diagram of a hive, which, from the experience I have had of its use this season, will be found, I think, to be of better construction than the ordinary straw hive with wholly or partially wooded top. The idea carried out in this hive suggested itself to me, from the fact that the tops of the hives I have had in use now for some few years, have given way from the weight of honey they have had to support, thus rendering their surface uneven, and in consequence making it somewhat difficult to work supers well upon them. The hive under consideration is so constructed as to entirely obviate these two evils, at the same time it is so simple as to require no length-

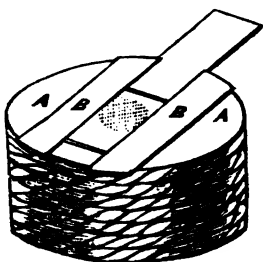


Fig. 1.

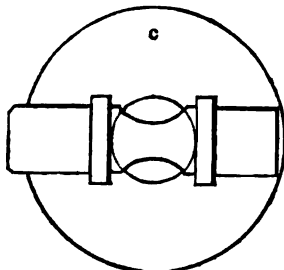


Fig. 2.

ened explanation. The crown-board A (fig. 1), is firmly screwed to two bars, B B, projecting at either end just beyond the straw, thus entirely preventing the crown-board giving way in the slightest degree. These two bars are so arranged as to allow of a double slide passing beneath them, the one of perforated zinc for ventilation, the other of tin for cutting off all communication with any super-glass which may be in use. There is also a super-board, C (fig. 2), so constructed as to slide easily between these two bars, resting at the same time upon them, and thus exercising an equal pressure over the whole surface of the crown-board. The super-board is also furnished with a double slide, so that to the most timid this arrangement of slides will be found most useful in the manipulation of bees.—A. K. H., *Westhorpe*.

BEES AT THE CRYSTAL PALACE.

WHEN in London a week or two ago I, of course, paid a visit to the Crystal Palace, and equally, of course, when there complied with the invitation which I described posted in divers conspicuous positions to visit "Marriott's working bees." Here I found a couple of unicombs and the same number of circular glass hives tenanted and at work, so far as the advanced season would permit, together with other hives of various descriptions, filled supers, specimens of comb, royal cells, &c., the whole being explained by Mr. Marriott in a brief but intelligent and intelligible lecture repeated every few minutes. Judging from the number of visitors and the interest which they displayed, this little exhibition appears likely to answer the purpose of its proprietor, as well as to minister to the growing popularity of the rational culture of the honey bee.—A DEVONSHIRE BEE-KEEPER.

SAVING CONDEMNED BEES.

I AM trying your plan (page 18), for saving condemned bees. I united the inmates of four hives on the 4th instant, and have fed since then with loaf sugar syrup through perforated zinc at the top of my box, by means of an inverted bottle, at the rate of 1 lb. of sugar per day, besides a small quantity of honey, which I give them in a tin drawer in the bottom of the hive. Do you think that quantity more than is really necessary? The floor is nearly covered with small white flakes like wax.

Does it require to be cleared? I have placed them in a hexagon box of my own manufacture, made of yellow deal; it measures internally 11 inches across from side to side, and is 15 inches deep. Will the great depth be any injury to the bees? I have a window in the side, so that I can watch their progress. I believe the bees and comb now weigh from 6 to 7 lbs., having inhabited their new home seven days.

I am preparing supers on a plan recommended me by W. Hedley, Esq., of Charlwood, each piece being about 4 inches deep, the top fitted with sliding laths. Will such plan be the best?—AN AMATEUR BEE-KEEPER.

[You are not feeding your bees too profusely. The supply should be continued uninterruptedly until the stock weighs something approaching to 20 lbs. nett. The floor-board need not be cleared of the small white flakes, which are scales of wax secreted by the bees and dropped by them in the process of fabricating comb. Your hive is somewhat deep, and the supers rather shallow, but the bees may, nevertheless, prosper in the first, and you may deepen the latter by inserting a second box under the first when nearly full.]

THE EGYPTIAN BEE.—PART V.

HOW I PROCEEDED TO INCREASE AND MULTIPLY IT.

(Continued from page 156.)

BEFORE entering upon a description of the attempts which I made to propagate *Apis fasciata* during the autumn of last year, and the degree of success by which they were attended, I may be permitted again to refer to my correspondence with Herr Vogel, which terminated on his part with a long letter in his own language, which reached me in September, and from which I make the following extracts:—

"The Egyptian queen which you received from me was reared in June last; she is, therefore, about four months old. This queen has received a true impregnation, because the mothers that were reared from her brood here produced true Egyptians. I sent you this queen because the queens that were thus reared became all beautiful and true Egyptians.

"The cells of the Egyptian bees are one-tenth narrower than the cells of our northern bee, so that ten Egyptian cells, including the partition walls, are equal in width to nine cells of our bees. If the Egyptian bee is bred in the combs of *Apis mellifica*, and by native bees, it becomes bodily somewhat larger and also makes somewhat larger cells. The black or the Italian bees no doubt feed the Egyptian larvae with abundance of pollen, wherefore the young bees bred in their larger cells are of unusual size when hatched out. If, however, there are only Egyptians in the hive, all the bees will ultimately revert to their original size."

Herr Vogel then gives his opinion of my hives, of which I had sent him a description, accompanied by a sketch of one of my frames, which in respect to size occupy an intermediate position between the large ones in use in America and the diminutive ones of Germany, and are, as I believe, the best adapted for our climate. He says:—

"The Egyptian bees require as large a hive as the Italian. I think your hive too wide. The Dzierzon hive is made but 10 inches wide (compare the line A B*). Hives provided with frames are 11 inches in width, but the combs are then also but 10 inches wide, as the frame stands off a quarter of an inch on each side, and each part on either side is a quarter of an inch thick, consequently four quarters, or one inch, must be deducted. We find here that the bees winter better in narrow hives because the warmth is better kept together in them. Our hives have three storeys one above another (ständestock), and each storey contains from ten to twelve combs, so that the stock when filled contains from thirty to thirty-six combs, each 10 inches wide, and about 8 inches high. The 'lagerstock' has but two storeys, each storey containing about fifteen combs, both taken together about thirty. My opinion as to the size of your hives may, however, be wrong, because I know England, its climate, and bee-pasture only from books, and, therefore, may be mistaken. The breadth of our comb-bars is exactly an inch, and differs from the breadth of your bars. Your bars are too narrow, as a brood-comb is exactly 1 inch thick, but will just suit the Egyptian bee whose comb is not so thick."

* This line is 10 German inches in length, and marked on the margin of the letter. I find on comparing it, that 10 Prussian inches are equal to about 9½ inches English.

Referring to regicidal attacks on young queens, Herr Vogel says:—

"It has frequently happened to me that young queens were killed by their own workers; but this was only the case after their returning from a successful wedding flight." For certain reasons which Herr Vogel states, they then seem strange to the bees, wherefore they are often treated hostilely, nay even killed.

"You are quite right" continues Herr Vogel "in saying that Egyptian queens mating with Italian drones produce only Egyptian drones. Observation has shown this also in the present year. Likewise Egyptian queens impregnated by black drones bred only pure Egyptian drones. If the young queen is a true one by birth, the mating with a drone of another species has no influence whatever on her male offspring.

"I do not find that the Egyptian queens quit their cells sooner than the Italian. If this has been the case with you, then the bees have chosen a larva more than three days old, from which to raise a queen, wherefore your queens hatched sooner. It has repeatedly happened to me, that queens left their cells on the tenth day; but this was only the case when the bees had larvæ four or five days old from which to rear a queen.

"You did well to raise young Egyptian queens this summer. Next spring you will have Egyptian drones in greater abundance. The latter are on the whole of a more beautiful colour than the Italian drones, which, as a rule, vary in colour."

Being willing to conclude what I thought worth extracting from Herr Vogel's letters, I have advanced somewhat too far in point of time, and must therefore go back to the end of July, when I received the Egyptian queen. As before stated, she alone survived the journey and the hazards of an introduction to a small colony of Italians, which I immediately proceeded to strengthen by the careful selection and gradual addition of ripe brood combs from other and stronger stocks. This process being necessarily somewhat slow, I could not wait for its conclusion, but was of course compelled to defer operations until my lilliputian Semiramis had so far recovered from the fatigues and dangers incident to her journey and translation to an alien stock, to commence the all-important duty of oviposition in her new realm. It was not, therefore, until the 7th of August that I found myself in a position to take the first step towards propagating my new and very interesting acquisition. As it was essential that in endeavouring after this end I should not deteriorate even in the slightest degree the little colony presided over by the illustrious stranger whose dangers and adventures formed the subject of my last paper, I may be excused for entering somewhat into detail in describing the process by which the prosperity of the original colony was not only not retarded, but was even actually advanced by the measures adopted for propagating the new race. Selecting, then, one of the original combs in which her Egyptian majesty had by this time deposited a good many eggs, I on the above-mentioned day swept every bee from it back into the hive with a feather, and supplied its place with a comb full of sealed brood from another hive, thus actually benefiting and strengthening the Egyptian stock. Putting the abstracted comb into a nucleus-box, I added to it two honeycombs, placed one on each side, and brushed into the box all the bees from three brood-combs lifted out of a strong hive for that purpose. Substituting a sheet of perforated zinc for the crown-board of the nucleus-box, and closing the entrance by means of the same material, I at once conveyed it to a dark room, where it remained until dusk. As soon as darkness had pretty well set in it was placed on its intended stand, the entrance unbarred, and the crown-board replaced. A grand rush was of course the result, but it was too dark to take wing, and the involuntary truants were perforce compelled to remain where they were until the next morning, when numbers, doubtless, returned to their own hive. Notwithstanding this desertion, so many bees remained that had never taken flight, and, consequently, knew not their way home, that royal cells were started in due course, and the first queen was hatched on the 22nd of August, just fifteen days after the formation of the little artificial colony.

I had a few, but only a very few, full-sized Italian drones remaining, and my principal dependence for the fecundation of these late-bred princesses, was on the services of a number of small Ligurian drones bred in worker-cells, and which have on this account been deemed by some to be incapable of fulfilling their proper functions. Evidence of fecundation were, therefore, watched for with no little anxiety, and it will readily be conceived with what exultation the fact was hailed, that on the 9th of September, and on the eighteenth day of her existence,

it was found that this, the first English-bred Egyptian queen bee, had become fully capable of performing every duty connected with her position.—A DEVONSHIRE BEE-KEEPER.

TO PRESERVE FRUIT FOR WINTER USE.

QUITE fill the ordinary wide-mouthed fruit-bottles with sound fruit, let it be thoroughly shaken down, so that the bottles shall hold as much as possible. Next, firmly fix a board horizontally in a copper, on which set the bottles of fruit; pour cold water into the copper till it reaches to within about 1½ inch of the mouths of the bottles. Now, light the fire and allow the water to heat gradually. As soon as the water begins to boil, the fruit will shrink; when it has shrunk about 2 inches take the bottles out of the copper, and fill them nearly to the top with boiling water, taking care that no fruit floats; pour on the top about a table-spoonful of strong spirit, then cork down tightly and seal, first dipping the lower end of the cork into the spirit. Bladder may be substituted for the cork, and sealing wax.

It is essential that the final closing should be completed while the bottles are quite hot. If a copper is inconvenient, the boiling may be done in a saucepan of the requisite depth over the fire, but the bottles must be prevented from touching the saucepan, by means of straw.

By adopting the above method, I have had for some winters past a good supply of fruit, perfect in flavour, and bright in colour.—H. W.

A GOOD DISINFECTANT.—The carbolate of lime is recommended by medical authority as an effectual and cheap disinfectant. Its preparation is very simple. Take a tub and place some unslacked lime in it, then add water and stir up; after a time draw off the water, and add carbolic acid in the proportion of one part to two hundred. Thus, as carbolic acid only costs about 1s. per gallon wholesale, we have the cheapest of disinfectants. If this were extensively used to flush our sewers, as also by private persons in their own houses, it would do much to prevent disease.

A GREENFINCH MULE BREEDING.—My attention has been directed to the suggestions made by a correspondent, that an error may have been made, and that the hen may not really have been a mule, but, upon that I am perfectly clear. I bred her myself from a cock greenfinch and a hen canary kept by themselves in a breeding cage, so that of her being a mule I have no doubt. She has brought up eleven young birds, and is now sitting upon five eggs. I do not attempt to explain this freak of nature, but of the fact itself I can bear positive testimony.—W. B. HUGHES, Chelmsford.

OUR LETTER BOX.

HONOURABLE MAN (O. B. L.).—We do not know.

COCHIN-CHINA (H. G. E.).—The cock two years old and the pullets six months are not objectionable as to age; whether their progeny is good depends upon very different antecedents—breed, management, relationship, &c. Vulture hocks are when the feathers of the thighs are so long as to project beyond the knee or hock, as it does in the vulture and some other species of rapacious birds.

GAME COCK'S BILL BROKEN (Game Cock).—The bill will not grow again to its original size, nor are there any means of making it do so. The bird may be inconvenienced by it, but is not disqualified. He will soon learn to eat.

OATS GROUND FOR POULTRY.—In reply to your correspondent, I may name Mr. John Hill, Maresfield Mill, Uckfield, Sussex, who will forward samples and price.—W. W. TOWNSEND.

BEE-HOUSE (E. W.).—The size of a bee-house must, of course, be determined by the number of hives it is intended to accommodate, whether eight or ten or more, allowing 8 feet between each doorway. Ligurian bees are not now very expensive. If you write to T. W. Woodbury, Esq., Mount Radford, Exeter, he will give particulars.

POULTRY MARKET.—SEPTEMBER 17.

THE tardy harvest operations are not without effect upon the poultry market. The people are too busy in the fields to kill and send up poultry. This causes rather a better price than is usual for fattened and choice poultry.

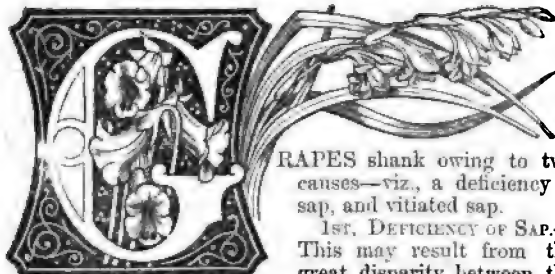
	s.	d.		s.	d.
Large Fowls.....	2	6	Partridges.....	0	0 to 0 0
Smaller do.....	2	0	Grouse.....	0	0
Fowls.....	0	0	Hares.....	0	0
Chickens.....	1	6	Rabbits.....	1	4
Geese.....	5	6	Wild do.....	0	8
Ducks.....	1	6	Pigeons.....	0	8

WEEKLY CALENDAR.

Day of Month.	Day of Week.	OCTOBER 2-8, 1886.	Average Temperature near London.			Rain in last 30 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.								
2	Tu	Balsamina latifolia.	64.4	44.1	54.8	19	4 41	55 45	moor.	28 42	25	10 39	275
3	W	Balsams.	63.7	44.5	54.1	16	5 6	53 5	9 0	7 8	24	10 57	276
4	Th	Bauera latifolia.	64.1	48.3	58.7	19	7 6	51 5	20 1	30 3	25	11 15	277
5	F	Blandfordia intermedia.	68.1	40.7	51.9	19	9 6	38 5	27 2	7 4	26	11 33	278
6	S	Browallias.	61.9	48.7	52.8	21	10 6	36 5	34 3	33 4	27	11 51	279
7	Sun	19 SUNDAY AFTER TRINITY.	62.6	44.3	53.4	19	12 6	34 5	40 4	50 4	28	12 8	280
8	M	Calceolarias.	61.5	42.4	51.9	20	14 6	33 5	48 5	22 5	29	12 26	281

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 58.0°; and its night temperature 43.2°. The greatest heat was 80°, on the 4th, 1859; and the lowest cold 17°, on the 2nd, 1858. The greatest fall of rain was 1.06 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

GRAPES SHANKING AND SPOTTING.



GRAPES shank owing to two causes—viz., a deficiency of sap, and vitiated sap.

1ST. DEFICIENCY OF SAP.—This may result from the great disparity between the

temperature of the ground in which the roots are situated and that of the house where the foliage and fruit are. In the case of outside borders there is very often a difference of 10° between the mean temperature of the house and that of the border, and in a hot, dry day the leaves and fruit will throw off moisture rapidly, but the roots furnishing sap slowly, too little will be pumped up to meet the requirements of the expanding fruit. The footstalks of the berries will therefore shrivel, or become ulcerated, and a complete stoppage of the communication between the roots and the berries will be the consequence, ending in the shrivelling of the berries thus cut off from further supplies of sap. Shankling may, therefore, be the effect of the roots not furnishing sap in sufficient quantity for the demands of the expanding fruit, through the disparity between the temperature of the ground and that of the air; and yet that in all cases will not cause shanking, for the condition of the roots may be such that they will supply sap fast enough, or there may be enough stored up in the stems to meet any sudden demand of the expanding fruit. This, however, can only be the case where the roots are in a medium favourable to the formation and preservation of the fibres and their points or spongioles. Shankling, therefore, may not be the effect of too great a difference between the temperature of the soil and atmosphere; but the conditions unfavourable to shanking are elevation, dryness, and openness of the border, which are essential to the preservation of the fibres in health until the crop is mature; whilst the predisposing causes of the disease are lowness, wetness, and closeness of the material of the border. In short, all outside borders have a tendency to cause shanking, for, however dry they may be rendered by drainage and the materials of which they are formed, yet very wet and cold weather when the fruit begins to colour may so retard root-action as to induce shanking through an insufficiency of sap, arising from inactivity of the spongioles.

A deficiency of sap may also result from the border being not only outside, but also below the level of the surrounding ground, and deep, rich, and imperfectly drained. This is generally the case when shanking is most severe. Than roots situated deep beneath the surface, and in a manner shut out from all sun and atmospheric influences, in conjunction with excessively rich soil, nothing further is required except a period of cold rainy weather when the Grapes commence ripening, to cause the

speedy destruction of the fibres (never very plentiful), rendering the supply of sap insufficient for the expansion of the fruit, and as a consequence the berries shank. Examine at what time we may the roots of Vines situated in a deep, rich, low, wet border, we shall find them little better than so many bare sticks, with a few fibres at the ends—in winter almost entirely rotten and dying back, and what can we expect but that similar destruction of the fibres will take place in summer when the same conditions of coldness and wet present themselves? Too great a depth of soil, roots too deep, soil wet, too rich, and cold in comparison with the temperature in which the branches and fruit are situated, will destroy the fibres, and cause a deficiency in the supply of sap, owing to which the footstalks of the berries or parts of the bunches will become ulcerated.

An insufficiency of sap may also result from depriving the Vines of too much foliage either in the current or the previous season. It is not unusual to keep vineries warm and moist, with no great amount of air after the fruit has set, in order to secure root-action; a great breadth of foliage is produced, and when the fruit begins to colour, or a little before, a great part of the leaves is suddenly removed under pretence of getting the fruit well coloured, and thus the foliage not being in proportion to the fruit and to the root, it cannot assimilate the extraordinary amount of sap driven into it: hence the roots are rendered inert, and their destruction follows either when the weather proves wet and cold, or a good supply of water is given to help the second swelling. The roots are now gone, but more air is given, the evaporation from the leaves becomes excessive, the roots do not supply sap fast enough for the swelling fruit, and shanking of the footstalks of the berries and bunches follows. This is not so common a cause of shanking as coldness and wetness of the border, but it does sometimes occur with Vines planted in an inside border.

The remedial measures are to form the border inside, or have it warmed by hot-water pipes in chambers under it, to protect it from heavy and cold rains, to form it in all instances where practicable above the surrounding ground level, and to provide the most effectual drainage possible, and this more particularly where the soil is of a cold, wet, clayey nature. I found that the Vines planted in a border sunk so as to be level with the surrounding surface, always had a tendency to shanking in the bunches which they produced, even after they had been lifted and the border thoroughly drained. The following course was therefore adopted:—The surface of the border was concreted with lime riddlings and gravel well pounded, and two-inch drain-pipes were laid thereon, so as to form one drain lengthwise 18 inches from the front lights, another a like distance from the back, and one in the centre. These drains extended the length of the border, came out a yard beyond it at each end, and were crossed by similar pipes extending from the front to the back of the border, forming, where they crossed those laid longitudinally, a four-inch opening or parting covered with a tile. The cross drains were 4 feet apart. Upon the tiles

was laid a foot of brickbats, from which the finer portions had been sifted out by an inch sieve, and on the brickbats was placed turf grass-side downwards. The border was composed of turf, cut 3 inches thick, from a pasture, the soil of which was a lightish hazel or yellow loam resting on a gravelly subsoil. The turf was laid on fresh, as cut, grass-side downwards, and between every layer boiled half-inch bones were strewn, until the border had been carried up to the height of 24 inches. When finished it had the appearance of an inclining terrace, with slopes in front and at the ends, the drain-tiles extending beyond these, and being each fitted with a wooden plug, so that they could be opened or closed at will. During the growing season these plugs were taken out daily, if the temperature of the air exceeded that of the border, but at no other time, and they were invariably put in at night. Vines were of course planted, and the Grapes did not shank. The border, having a sloping top or surface, was covered with boards if the weather proved unfavourably wet. I mention this, thinking it may meet the requirements of a correspondent, "M. J. B.," to whose questions the above is partly in reply.

2nd, VITIATED SAP.—In vineries where the borders are inside shanking is not wholly unknown, nor in heated borders is it invariably true that Grapes do not shank. I have seen them shank under what we may term very unfavourable conditions for the disease, and notwithstanding every precaution taken to guard against it. I fully believe the Vine to be no feeder on carrion, nor any of those strong manures which subside during decomposition into a soapy mass, in which no Vine root will live for a single winter, or, if so, only to push into the subsoil or anywhere out of the reach of the putrefaction. Very often Vine borders are made so that the mouths of the Vines planted in them are rotted off, at times taking up so much food as to cover the roof with an undue amount of foliage, and at other times scarcely enough for the pressing demands of the leaves and fruit; but if this cause shanking, what is it but an insufficient supply of sap? The roots not taking up the supply of food as decomposed or rendered available, it is absorbed by the soil adjoining, and this goes on constantly, so that the soil not only becomes excessively rich, but sodden, sour, and deprived of air from its closeness. It surely must follow that the spongioles take up food in a vitiated state, and that the plant being unable to throw it off otherwise new parts are formed; these being vigorously stopped the vitiated sap chokes the passage in the narrow part between the berry and main conduit of the sap, and the berry so cut off from further supplies of sap shrivels.

The sap may be vitiated by excessive watering, too rich soil, and the border being deprived of air from the closeness of the materials employed; and this vitiated sap produces much wood and long loose bunches of fruit with wiry footstalks, the berries swell very irregularly, and when they should become large, plump, and well-coloured, they stop swelling, remain red, shrivel, and are sour. A soil open, well-drained, and poor rather than rich, would prevent the last result, and our best Grapes are not grown in borders measured by their depth and the quantity of manure they contain, but by the openness of the soil, the slow decomposition of the manurial substances, and its dryness and shallowness. Naturally, the Vine loves the hills and rocks, and will not thrive in bogs, such as we may see without much trouble in almost any garden where Vines have been planted some time. Afford the Vine a warm, dry, and open soil, and shanking will be less frequently seen. It may only be an idea which I have, but I think calcareous matter is valuable for some kinds of Vines, and these are such as are most liable to shank—viz., Frontignans. I have had these free from shanking when grown in a border out of doors resting on a bed of chalk, which substance also entered largely into the composition of the border, as also another variety very liable to shank—namely, the Muscat Hamburgh. Of all Grapes this I believe to be the very best, and, at the same time, the most difficult to grow without shanking in an outside border. With me, when worked on the Black Hamburgh stock, it is anything but cured, though vastly improved.

The berries sent by "M. J. B.," which "appear bruised," are, in addition to shanking, spotted. The "spot," as gardeners call it, is mainly due to the same causes as shanking.—G. ADDEX.

THE "RETAMA" (*Parkinsonia aculeata*), grows wild in many parts of south-western Texas, and is now quite extensively cultivated at Austin, and in other places. The young trees have a bright green, smooth bark, both on their trunks and

branches, with long, pendent, grass-like leaves, which, when young, have small leaflets. It has bright yellow pea-like, fragrant flowers, the lower parts of the petals tinged with ochraceous brown. Its seeds are contained in pods. It is a rapid grower, and quite hardy. From its endurance of the "northern" at Austin, where the thermometer is sometimes as low as 20°, and very often 12° below the freezing-point, I am satisfied it will thrive in the open air as far north as Washington. It deserves extensive cultivation in all the States south of this latitude, for there are few trees more beautiful.—(*American Country Gentleman*.)

ANNUAL BEDDERS.

To any one in want of a cheap, showy, and easily-managed bedder, I would say, Try the common Scarlet Runners. I have grown them for this purpose for two seasons, and have satisfied myself that when properly managed, this plant makes a very gay and effective bedder. At the present time my row of Runners is a perfect sheet of orange scarlet, and this in spite of the drenching rains to which most of my bedders have succumbed. Nothing can be simpler than the management. Sow the seeds in May in poor soil, without manure, but on dry land, and in a sunny position. Put the seeds into the ground with your finger and thumb, at, say, 12 inches distance from each other. They soon make their appearance, and grow like Mushrooms. As soon as the stems begin to taper up peg them down until you have a perfect row, or, if you grow them in a bed, until the ground is completely covered. After that you must go over the row or bed occasionally, and nip off with a pair of shears any straggling shoot, together with some of the foliage, if it is too thick. You will soon have an even mass of bloom, which will last till the frosts come. Of course, you will take off the pods as they become ready for the table, and so your bedder will be useful as well as beautiful. The colour, as every one knows, is a peculiarly cool brick red, unapproachable, in my opinion, by that of any known bedder. Combined with blue *Salvia* behind it, and *Centaurea*, or *Mrs. Holford Verbena* in front, the effect is magnificent. If you object to *Salvia patens*, from the uncertainty of its bloom, try a border composed of the following materials—1st row, *Lobelia speciosa*; 2nd row, Scarlet Runners; 3rd row, *Calceolaria amplexicaulis*. Though professional chromaticists may be horrified with the combination, I venture to say that your border will be the admiration of the neighbourhood.

Another annual which I never omit to use as a bedder is *Saponaria calabrica*. As a border close to grass, it is, I think, unequalled for beauty and duration of bloom, and when thus used it saves the labour of trimming the verges of shrubberies on the lawn. It contrasts admirably with *Calceolaria Aurea floribunda*, and I have seen it used with excellent effect to fill a small bed on a lawn. It should be sown thickly, and should not be thinned out too much.—F., *Westmoreland*.

A PLEA FOR SNOWFLAKE LOBELIA.

LET me say a kind word for the much-abused Snowflake Lobelia. With me it had rather a pleasing effect in some circular beds of *Iresine* and *Coleus*. These beds were edged with *Centaurea candidissima* and *Cineraria maritima*, and a ring of Snowflake Lobelia was planted between the edgings and the dark brown and crimson masses. The Lobelia was clipped over when about 6 inches high, and formed a well defined ring of its white flowers, having a very pretty effect.

Lobelia Snowflake has certainly a very straggling and upright habit, and is quite unfit for bedding by itself or for ribbons, but if clipped it will flower more densely; and if mixed with other plants to support it I think it is worth further trial.—WILLIAM TILLERY.

ROSES IN SCOTLAND.

As promised, I enclose a list of Roses which I have found to be suitable in a cold late climate in the West Lothian, 420 feet above the level of the sea, as well as a list of those varieties which do not succeed at all under similar circumstances. Many in the latter list are undoubtedly Roses of first-rate excellence, but will only succeed in a genial climate. I have been an enthusiastic grower of Roses for fifteen years, and may, therefore, be expected to know something about the

queen of flowers. My stock consists of between three and four hundred plants, all on Briar or Manetti stocks, and I can give no preference to either stock, as both succeed well in a rather stiff retentive soil.—WM. M. WARDROP.

VARIETIES WHICH SUCCEED.

HARDY PERPETUALS.

- | | |
|----------------------------|---------------------------|
| * Anna Alexieff | Madame de Cambacères |
| Alfred de Rougemont | * Madame Charles Crapet |
| Baron Rothschild | Madame Souper |
| * Baronne Prevost | * Madame Victor Verdier |
| * Beauty of Waltham | Madame Julie Daran |
| * Charles Lefebvre | * Mdlle. Bonnaire |
| Duchess of Norfolk | Maréchal Vaillant |
| Duchess of Sutherland | * Olivier Delhomme |
| * Général Jacqueminot | * Paul de la Meilleray |
| General Simpson | Pauline Lantzeur |
| * Jules Margottin | * Pierre Notting |
| Jean Bart | Peter Lawson |
| Jean Goujon | * Prince Camille de Rohan |
| * John Hopper | * Sénateur Vaise |
| King's Acre | Souvenir de Lady Eardley |
| * La Brillante | Souvenir de Comte Cavour |
| * Leopold Premier | Triomphe de Villecranes |
| * Lord Macaulay | Triomphe de Paris |
| La Fontaine | * Turanne |
| Lion des Combats | Vainqueur de Goliath |
| Lord Palmerston | * Vicomte Vigier |
| * Madame Boll | * Victor Verdier |
| * Madame Boutin | * Comtesse de Chabillant |
| Madame Caillat | * Maurice Bernardin |
| * Madame Charles Wood | Wm. Griffiths |
| * Madame Clemence Joigneux | |

BOURBONS.

- | | |
|---------------------|-----------------------|
| * Catherine Guillot | * Model of Perfection |
| Emotion | * Sir Joseph Paxton |
| Louise Margottin | |

HYBRID CHINA.

Comtesse de Lacépède

HYBRID BOURBON.

- | | | |
|------------------|----------------|-------------|
| * Charles Lawson | * Coupe d'Hébé | Paul Perras |
|------------------|----------------|-------------|

TEA.

Gloire de Dijon

All of the above mentioned are good, and I have put an asterisk to those which I consider the most choice.

THE FOLLOWING DO NOT SUCCEED.

HYBRID PERPETUALS.

- | | |
|---|---|
| Anna des Diebach, tender. | Lord Raglan, very liable to mildew. |
| Auguste Mia, will not open. | Madame Furtado, bad constitution. |
| Baronne Halles, very liable to mildew. | Madame Knorr, weak grower. |
| Baron de Heckeren, tender. | Madame Masson, weak grower. |
| Cardinal Patrizi, tender. | Madame Pauline Villot, weak grower. |
| Caroline de Sansal, bad opener. | Madame Vidot, bad constitution. |
| Colonel de Rougemont, tender, and a bad grower. | Madame Wm. Paul, opens badly. |
| Comte de Nanteuil, opens badly. | Monsieur de Montigny, tender. |
| Deuil de Prince Albert, worthless. | Mathurin Regnier, bad constitution. |
| Duchesse d'Orléans, opens badly. | Monte Christo, bad grower. |
| Duc de Rohan, opens badly. | Mrs. Rivers, unsatisfactory. |
| Duc de Cases, thin in petal. | Ornement des Jardins, tender. |
| Empereur de Maroc, tender. | Paul Dupuy, bad grower. |
| François Lacharme, weak grower. | Plus IX., coarse. |
| Géant des Batailles, very liable to mildew. | Prince Léon, unsatisfactory. |
| Général Castellane, bad grower. | Professor Koch, opens badly. |
| General Washington, will not open. | Queen Victoria (Paul's), tender. |
| Gloire de Santeny, weak grower. | Sœur des Anges, will not open. |
| Louise Peyronny, tender. | Souvenir de la Reine d'Angleterre, will not open. |
| Louis XIV., weak grower. | Triomphe de l'Exposition, bad grower. |
| La Ville de St. Denis, will not open. | Vainqueur de Solferino, worthless. |

BOURBONS.

Souvenir de la Malmaison, opens badly.

HYBRID CHINA.

- | | |
|---------------------------------|----------------------|
| Blairli No. 2, tender. | Fulgens, tender. |
| Brennus, very liable to mildew. | Juno, will not open. |

HYBRID BOURBON.

Paul Ricaut, tender.

AN ORNAMENTAL FRUIT FOR THE DESSERT.

Every one who has much to do in providing or arranging the dessert is always on the look out for something fresh, either useful or ornamental; and to add to those fruits in general use, I would recommend Queen Anne's Pocket Melon. This Melon, as is well known by most gardeners, is not new, but a variety which has been little cultivated of late years. When neatly arranged with other fruits it is one of the prettiest objects that can be placed on the dinner table.

The plant is easily grown like other Melons, either in pots or planted out in the ordinary way. If grown in small pots, with stems about a foot high, and about five or six fruit on each of the plants, these are objects of great attraction, and are sure to please the most fastidious. The average size of fruit obtained

by pot culture is that of a small Orange, and they are most beautifully striped with red and gold; the aroma, too, is most delicious. The fruit from plants planted out will be about double the size of those produced by pot plants, but equally useful and ornamental. This miniature Melon is, I believe, of very ancient date, and is like an "old coat" or "old song," destined to become quite in the fashion again.—JOHN PERKINS, Thornham Hall, Eye.

THE GARDENS OF NUNEHAM PARK,

NEAR ABINGDON.

A CHANCE visit made recently to the gardens of Nuneham Park enabled me to glean a few facts that are worthy of record in THE JOURNAL OF HORTICULTURE.

The park and grounds occupy some 1500 acres. The dwelling-house is situated on the right of the railway from Didcot to Oxford, and can be seen immediately after passing Culham station; it stands on a sloping ground which reaches down to the river Thames some distance below. About three miles to the west is Abingdon, and about seven miles to the north is Oxford, glimpses of each of these places can be obtained from the grounds through openings in the trees. The pleasure grounds are very extensive, and well kept; lovely woodland walks stretch away to considerable distances from the dwelling-house. The flower garden comprises a small raised terrace garden, and a good space on the lawn on the north side of the house. The recent rains had done much to destroy the effect of some very pretty grouping of the bedding plants, the general arrangement doing great credit to the skill and taste of the gardener, Mr. James Stewart. I was very much struck with a row of a dwarf-growing Campanula, forming a third row in a ribbon-border, having a profusion of large, bell-shaped, lilac flowers. Mr. Stewart said the variety had been raised at Bowood, near Calne, the seat of the Marquis of Lansdowne, and was known as C. Bowoodiana; it grows about 9 inches in height, has a very close and compact habit, and blooms all the summer. Pulmonaria cerulea variegata was very effective here as an edging plant. It appeared to be benefited by having a good deal of shade thrown on it by some neighbouring trees. The pale yellow and bright green marking of the foliage was very distinct and effective. Those who depreciate the usefulness of the much-abused Iresine Herbstii should see it growing here when its beautiful foliage is lighted up by the afternoon sun! From whatever point it was looked at it was the most striking plant in the garden. Where it looked most effective was where it was most open to the influence of the sun when at the meridian. Mr. Stewart recommends that strong plants should be bedded out, and kept well watered every night, except in wet weather; the shoots should also be pegged down as soon as they are of sufficient length.

I never saw the old scarlet bedding Pelargonium Attraction finer than I saw it here. It was flowering as freely as a Nosegay, the trusses were large, and raised upon strong footstalks well above the foliage. It is one of the very best of the older kinds, and will hold its own against many of the new kinds for some time. Cloth of Gold Pelargonium has failed here, as in many other places; but Golden Fleece does remarkably well. Verbena Velvet Cushion has also proved a conspicuous failure, mildew attacks it so ruthlessly as to completely destroy it.

In the friendly shelter of some overhanging trees there was growing against a wall a large and luxuriant plant of the Ne-paulese shrub Benthania fragifera. It stands the winter at Nuneham Park without any protection, but it has not as yet produced fruit, or even flowered. It has been known to ripen its fruit against a wall in Devonshire.

The kitchen garden has the reputation of being one of the best walled-in gardens in England. Pears are very largely grown here; it is computed there are nearly 120 sorts in cultivation. A large number are grown on the walls—in fact, as far as wall-fruit culture is concerned, Pears seemed to predominate, and many of the trees were laden with fine fruit. From some reason the fruit of Duchesse d'Angoulême has prematurely fallen from the trees this season, both from the wall and from pyramidal trees. Mr. Stewart has, therefore, been compelled to gather a great deal of the fruit of this variety comparatively unripe. The Winter Nelis Pear cannot be induced to fruit here on a south wall; it should be on a west wall, where it fruits readily.

Figs are very largely grown here: a wall of the Brown Turkey was a sight in itself, the trees being heavily laden with remark-

ably fine fruit. Mr. Stewart waters his Fig trees copiously with soapuds from the laundry, and attributes his great crops to this practice. Mr. Stewart condemns the old practice of stopping the shoots of Figs to within three eyes. He has abandoned it, and suffers his shoots to make full growth, cutting out the old wood as soon as it has ceased to fruit in order to make room for the new. The trees are covered with thatch during the winter, to protect them from the effects of frost.

Raspberries are largely and very successfully grown. As soon as the fruit is gathered from the canes they are removed, to give liberty and ventilation to the young wood. To the adoption of this practice Mr. Stewart attributes his very heavy crops of fruit.

A large quantity of the now-celebrated Nuneham Park Onion was growing in the kitchen garden by the side of the White Spanish. The former was considerably larger than the latter, though treated in exactly the same way. Mr. Stewart says that he obtains a much greater weight of the Nuneham Park than he does of the White Spanish from a given piece of ground, and the Nuneham Park keeps a month longer than the latter.

Everywhere were signs of a skilful and intelligent supervision on the part of Mr. Stewart; and I have to thank him for the great courtesy and kindness shown to me on the occasion of my visit.—R. DEAN, *Ealing*.

MAIDSTONE GARDENERS' IMPROVEMENT ASSOCIATION.

If we inquire into the history of many of the most important undertakings of the present day, we shall find they owe their existence less to the enterprise of any single individual than to the united action of a number.

Horticultural and agricultural societies are of this description, and being scattered widely over the kingdom, become centres of districts, useful as being the means of encouraging their science; but there are also institutions of another grade which assume a less pretentious position to the public. Farming and gardening clubs, as they may be called, are equally useful, and deserving the support of all interested in such matters. Perhaps it is wrong to apply the term "club" to an association whose only objects are obtaining and imparting knowledge; but in many cases agriculturists have adopted it, and though, I believe, gardeners have not generally done so, the objects aimed at are identical in both cases. It matters not to whom the priority of establishing such institutions is due, much good has resulted from them, and the best practice of each neighbourhood has been made known in a manner well qualified to insure its general adoption. The greater numbers of the agriculturists, and the facilities which they possess of meeting in larger bodies, have given them an advantage over gardeners in the formation of societies; but in districts where the latter are sufficiently numerous to form societies for the promotion of knowledge, great efforts have been made within the last few years. Even in neighbourhoods not by any means favoured by the proximity to each other of first-class gardens, examples are to be found of success beyond that which even the most sanguine could have anticipated, and it may be of service to other rising institutions of a like kind, to give the history of one as furnished by one of its leading members.

The town of Maidstone, though situated in the midst of a district where the extent of ground under spade cultivation almost equals that under the plough, is, nevertheless, not surrounded by any great number of what are usually called good gardens, or, in other words, not many where any great extent of glass exists. Nevertheless, it was thought by those who were so placed, that some mode of interchanging ideas in a social and agreeable manner might conduce to the general good. Some active individuals, therefore, determined to make the attempt, and in the end of the summer of 1863, a suitable meeting-place having been obtained, a meeting was held and a Society formed, to be called the "Maidstone Gardeners' Mutual Improvement Association." Rules were proposed, and the purposes of the Society made known; the expenses not being likely to be heavy, the terms were easy, and the Society started at once with about seventy members, and the number rose in a short time to upwards of a hundred. A general meeting is held once a month, and an ordinary one in the interval, the hours being between 7 and 10 p.m. Of the subjects proposed for discussion at each general meeting, notice must be given at the preceding general meeting, and some limit is put on the time to be occupied by the party bringing it forward.

The young Society quickly attracted considerable attention, the subjects generally under consideration were popular, and in some cases pretty well handled, and honorary members attached their names. The Society was emboldened to attempt a show in the March following its commencement, or, in fact, before it was six months old. The Corn Exchange, a room some 100 feet long, by half that width, was engaged, and a managing and decorative Committee set to work to ornament it in a suitable manner. Wreaths, festoons, and pendants arranged with skill and taste, gave the large and spacious room an altered and highly decorated appearance, while for the tables beneath, the noblemen and gentry of the district sent their choicest plants, which, with the introduction of sculpture from a neighbouring artist, were so blended and united as to make up an harmonious whole, differing widely from the ordinary competitive shows of horticultural societies. Some private mark indicated each one's plants, while printed cards distributed pretty freely denoted from whom particular specimens came. The brilliant display of Azaleas, forced bulbs, Cinerarias, and other plants, occupied two long tables, an alley 12 feet wide running up between them, and they were also divided in the centre by a cross aisle of like width. A temple of evergreens occupied the centre where these aisles intersected, that being also the centre of the room. It has been explained that the ceiling and walls of the building were hung with evergreen festoon work, of which many hundred yards were used, yet nothing approaching to heaviness was to be complained of, elegance and neatness being aimed at. Besides the plants, collections of fruits and vegetables were exhibited on stands along the outer walls, as well as objects of natural history, dried specimens of plants and flowers, flowers and foliage skeletonised, and sundry other curiosities, sent for the occasion by gentlemen favourable to the Society. In an adjoining room a medical gentleman of the town, and other assistants, displayed the wonders of the microscope, several valuable instruments being lent for the occasion. This Exhibition, it may be added, was free to the members of the Association and their friends to a limited extent; but the terms of admission were low enough to the public. It was kept open during the evening, was much crowded by visitors, all of whom were highly pleased, and was the means of adding £40, or more, to the funds of the Society. The Exhibition was repeated in the spring of 1865, and again in that of the present year, varied in both instances in the mode of decorating the room, and other features, but in each case numbers of visitors had to be denied admission, as there was not room for them, and upwards of £60 was taken at the door. It need hardly be remarked that music and some other attractions were secured, and the families of rank and fashion in the neighbourhood visited the Show during the day. Such results, however, could not be accomplished without exertion, an energetic Committee and other officers, and the hearty co-operation of the general body of members. The whole of the duties, including that of attending at the door and receiving the admission tickets, had to be performed by members, while the tedious and laborious task of decorating the room was in a like manner made one of love, yet on all occasions faith was kept with the public by all being ready at the appointed hour.

Now, the above Exhibitions, gratifying as they were, and testifying as they did to what could be accomplished by combined efforts, were perhaps not the most important part of the Society's duties. The monthly or often fortnightly meetings of the members to discuss professional subjects elicited much useful information; and many of those who took part in them brought specimens of fruits, flowers, or vegetables to illustrate their views. As much care as possible was also taken to give the most diffident an opportunity of expressing their views if they felt so disposed. Some important subjects occupied a whole evening, while on other occasions two or three different matters were discussed, care being taken to allow two or three minutes' relaxation between the subjects for social intercourse, but at other times good order and attention to what was going on was maintained. Numbers of those who enrolled themselves as members were not gardeners in the ordinary sense in which the term is applied, but tradesmen, amateurs, and others who took an interest in gardening, and who admitted they derived much useful information from what was going on. The monthly meetings were generally attended by from fifty to seventy members during the winter, but in summer, owing to other duties, the attendance was not so numerous; still on most occasions there was a respectable number present.

The success which had hitherto crowned the Society's enter-

prises induced them lately to undertake another, being one of those holidays which combine a large amount of social pleasure with a professional treat. An excursion to Kew was determined on; and the railway authorities having been consulted, arrangements were made to run through without change of carriages to that rich repository of vegetable treasures. The Society undertook to treat such of its members as chose to go out of its funds, and issued return tickets at a reasonable rate to the general public. The excursion was fixed for the 20th of August, when about three hundred availed themselves of the opportunity, and it is probable that the number would have been much larger had not the morning threatened rain. The day, however, fortunately proved fine. A band of music was not forgotten; and the members of the Association wore a badge of ribbon, with an inscription denoting their membership. Some contrived to see Battersea Park as well as Kew, but the latter place alone is sufficient to occupy the longest summer day. All were much delighted with the trip and what they saw, and many expressed a wish to repeat it another year if it could be managed. The number of members present amounted to about a hundred, being nearly one-half of the whole enrolled Association, and many of those who were prevented going regretted much the treat they had lost.

Successes like the above have very probably been achieved by other societies of a like kind, but these are either but little known or their members are few in number. It is, however, very easy for other districts to form similar associations, and which might be equally successful, for "what is done in one place may be done at another;" and acting on that principle, kindred societies are starting in other towns. Two or three have applied to the Maidstone Association for information, and expressed a wish to correspond on professional subjects. This, however, cannot be done to any great extent without entailing a heavy tax on the time of the Secretary or those who conduct the correspondence; but for the guidance of any similar infant society which may be disposed to follow the example of that formed at Maidstone a copy of the rules may prove useful. Of themselves these present nothing extraordinary, for after all, such societies, like nations, would not accomplish much were it not for individual exertions; and when these are fostered and encouraged by good and efficient officers the result is usually favourable. In the present case there are several well-known names among the officers, and doubtless the Institution will go on and prosper. The rules are as subjoined.

1. That this Society shall be called the "Maidstone Gardeners' Mutual Improvement Association;" and that its object shall be the more general diffusion of knowledge as to the cultivation of fruits, vegetables, flowers, &c.
2. That honorary members be admitted and also amateur gardeners and others, as well as nurserymen and professional and assistant gardeners. All candidates to be proposed by a member at a meeting of the Society, and ballotted for by the Committee, if demanded.
3. That the subscription be 1s. per quarter, to be paid in advance; that each member may introduce a non-member at any meeting of the Society on payment of 6d.; and that a subscription of 4s. or upwards per annum, in advance, shall constitute an honorary member.
4. That fortnightly meetings shall be held at the Rose and Crown Inn, Maidstone, or at such other place as the Committee shall from time to time appoint, on Wednesday evening at seven o'clock. That every alternate meeting shall be called a general or monthly meeting, and the intermediate meetings shall be called ordinary meetings; and that all such meetings shall close at ten o'clock.
5. That all subjects discussed at both general and ordinary meetings shall have reference to horticulture, which shall be understood to include the management of woods and live and dead fences, and the formation, heating, and ventilation of greenhouses, hothouses, &c.
6. That at both ordinary and general meetings the business may commence so soon as there are seven or more members present, and if the President and Vice-President are both then absent, the members present shall choose a Chairman for that meeting.
7. That at the general meetings any member may propose a subject for discussion or consideration at the next general meeting (such proposition to be in writing and signed by him), when such member shall introduce his subject and state his views, and then the matter shall be open for general discussion; but if he is absent when called upon, the subject next on the list for discussion shall be proceeded with. The order in which such proposed subjects shall be taken to be decided by the Chairman.
8. That at ordinary meetings any member may, with the sanction of the Chairman, propose a question or subject, and proceed immediately with the same (without previous notice, as required in respect to subjects for general meetings).
9. That no speaker shall, at any meeting, occupy more than fifteen minutes at one time, without the sanction of the Chairman.
10. That the Secretary (or in his absence the Chairman), shall enter

in the minute book all resolutions passed at committee meetings, and at general and ordinary meetings, and also all notices by members of subjects for discussion, and minutes of all discussions at both ordinary and general meetings, and such other matters as the Chairman at any meeting may think necessary or advisable.

11. That the President, Vice-President, Treasurer, and Secretary, shall be *ex-officio* members of the Committee; and that the Committee shall never consist of less than twelve members, five to form a quorum. New Committee-men to be appointed at general meetings.

12. That the Committee shall have power to adopt fines for improper conduct or language at either general or ordinary meetings, and to pass all such other rules and resolutions as they may deem expedient for the more effectually carrying out the objects of the Association; and public notice of all such matters shall be given by the Chairman at the next general meeting.

NEW THINGS I HAVE TRIED.

BELIEVING that collected opinions are always more or less useful, I venture after a fair trial to offer mine on a few comparatively newly-introduced plants, and as I seldom wield my pen on horticultural subjects, I beg to premise that my opinions, although somewhat laconic, are not intended to be dogmatic.

First, then, to dispatch with all fitting speed that rat-tailed "lion," *Raphanus caudatus*, by pronouncing it to be an ugly, tasteless, useless curiosity, without even the plea of novelty to recommend it.

What shall I say of the *Variegated Chrysanthemum* "Sensation?" That it is one of the most, if not the most, desirable of autumnal plants either for in or out-door decoration that has been introduced for many a long day. It is thoroughly hardy, and as easily propagated as any of its progenitors. Its yellow variegated foliage is most constant and lively; and if it give a fair head of white flowers, I venture to predict that it will prove the gem, not only of my own autumnal conservatory, but of others, larger and more elaborately furnished. From the perfect ease with which it can be propagated, we may expect to purchase it next season at a reasonable rate.

The *Scarlet Invincible Sweet Pea*, although not possessing a particle of scarlet in its composition, is, nevertheless, a most pleasing novelty; its colour is totally distinct from, and far more brilliant than any of the old varieties, it produces also a greater profusion of flowers, and apparently matures a larger number of seeds. I should not recommend the *Scarlet Invincible* under glass, as it is apt to grow leggy, and the flowers are deficient in brilliancy of colour.

If we place by the side of the last-named plant *Delphinium belladonna*, which I obtained from Messrs. Backhouse, of York, we obtain the most satisfactory contrast of colour I ever beheld. This variety of *Delphinium* is of a lovely turquoise blue, most striking in colour in whatever situation it may be placed. It is a perfectly hardy perennial, and can be obtained at a cheap rate.

The *Czar Violet* has proved not only hardy, but very prolific. Its flowers are not only much larger than the older kinds, but are decidedly superior in fragrance.

Maréchal Niel Rose is too well established to require any comment, unless it be that its perfect hardiness still admits of doubt.

Lilium auratum can scarcely be called a new plant (although at a local show this year I saw it receive the first prize as such), but its loveliness and grandeur induce me to mention it. I believe it to be as hardy as any of its tribe, and to require nothing more than ordinary care in its cultivation, and I cordially agree with the treatment throughout recommended by Mr. Bullen, in a former Number of the Journal.—H. P.

CAMPANULA CARPATICA AS A BEDDER.

I THINK that many of your readers will be interested to know that I have used the *Campanula carpatica* as a summer bedding plant for the last three years, this season in quantity, and here it is considered one of the most satisfactory plants we have for that purpose. In my estimation it is far superior to *Viola cornuta*.

The *Campanula* stands all weathers. At this moment, after the continual wet, it is a sheet of bloom. There are two long beds of it here edged with *Pelargonium* Mrs. Pollock, very much admired, and as a ribbon it is first rate. It has one drawback, it requires continual attention in removing the seed-pods, otherwise it would exhaust itself by producing seed.

It requires to be replanted every season. The end of March or beginning of April is the best time. It should be taken up, divided, and dibbled in where wanted, in single bits about 4 inches apart. To make a good ribbon two rows are requisite. Every little bit will grow. No one need fear giving it a trial, for it is certain to give satisfaction.—JAMES CERRAS, *Shabden, Redhill*.

AN AFTERNOON AT VITRY.

VITRY is the paradise of Paris nurserymen—a place unlike anything we have in England, the good quality of its soil and its vicinity to the great city having attracted to it, I believe, not less than two hundred of the fraternity, great and small—some of them well known to fame, others little men, who have their *spécialité*, with which they supply the Paris markets. The whole place is redolent of gardeners; "*Pépinieriste*," "*Horticulteur*," meet your eyes on each side; the very *auberge* has something to say to the profession, it is the "*Belle Jardinière*," or something of that sort. Amongst those who have grounds there are the two Verdiers—Eugène and Charles, and it was in answer to a courteous invitation from the former that I set out one afternoon, in the early part of last June, to visit his grounds. And what a journey it was!—the diligence, a memorial of those primitive times when, as I well remember, it took one a couple of days to get from Boulogne to Paris, and nearly a week from Paris to Marseilles; the road, that delicious *pavé*, which only such diligences could endure without having every spring smashed; the dust inches deep; and the day one of those close sultry ones that usually precede a thunderstorm. Still, the engagement was made, and so I went. Unfortunately, M. E. Verdier had been obliged to go off to Brie, but left directions for his foreman to meet me. The hour that he named for me to be there was simply impossible, and so when jolted and hot I arrived at Vitry no one was there to meet me. I walked on, inquiring for M. Verdier, but no one seemed to know him. Ah! how I sighed for poor Paddy, who not only knows everybody, but everything about them, has the story of the skeleton in the closet, if there be one, and all other ins and outs of each family. I found out afterwards that this arose from the fact of his having no house there, and of course they did not trouble themselves about the mere owners of fields and nurseries. After a vain search for an hour or more I at last bethought me that mine host of the *auberge* would perhaps know, and so I asked. He immediately told me that there was a nursery just at the back, but no one was there; but he said, "There is a nurseryman here who will tell you, and he speaks English too." This I found to be Portemer, who has lately arrived here from Gentilly. Still I could not gain any more definite information, and as I was now tired and thirsty, returned the host's politeness by asking him for some Bordeaux. While refreshing myself thus, Verdier's foreman rushed in. He had been told by some person that there was an Englishman looking for him, and was glad to find me, as I was to find that my journey would not be a fruitless one.

In the piece of ground that I have already spoken of there was a large number of Gladioli, of which M. Verdier has a fine collection, and whose roots, as I can testify from personal experience, are sound and good. I was rather disappointed this year on receiving Souchet's new varieties to find them so small; but was perfectly astonished at the fine spikes of bloom that they threw up. I saw also here a row of a rose-coloured Rose, which struck me as good, and found afterwards that it was *Alba mutabilis*; whether it will sustain that character in our English soil and climate remains to be proved.* I have not, to my knowledge, seen it once exhibited; but the best piece that he had was evidently one on a little more elevated position, but sheltered with trees. The soil was a rich unctuous loam, having that yellowish look so dear to the Rose-grower, and so agreeable to the Rose. Here, as I expected, were to be seen a large number of those sent out by M. Verdier last autumn, and also rows of those under trial, to be sent out this autumn. Foremost amongst those of last season the foreman placed *Mille Marguerite* Dombrain, and as at Lyons so here, it was pronounced to be the premier Rose of the year. Certainly nothing could be more beautiful and fresh and fine than it was here. "Ah!" said the foreman, "it ought to be

called after a young lady, it is so beautiful!" Then there was Madame Charles Baltet, a Bourbon Rose of fine properties, evidently a seedling of Louise Odier, but of good size and substance, and beautifully imbricated. Jules César, another Bourbon, did not strike me as so good as that called after myself. Charles Rouillard I marked as good, although not particularly striking. On the other hand, Fisher Holmes is a brilliant scarlet-looking flower of excellent shape; I hope to see more of this, and shall be surprised if it do not prove to be an acquisition in that rather numerous class from its fine shape. Jean Lambert was too large and coarse to suit my idea of beauty in a Rose; it has, as M. Verdier's catalogue states, extraordinarily large buds. Prince de Porcia I have already spoken of as a very promising flower; the colour is excessively bright, and if the form be constantly good I have no doubt of its excellence in other respects. Souvenir d'Abraham Lincoln was a moderate-sized flower, of a peculiar shade of colour, but hardly one that will commend itself to us on this side of the Channel, I fancy. It will be seen that these were all sent out by M. E. Verdier, and therefore I had a good opportunity of seeing them in large quantities, and on plants that had not been so largely worked as many of those here had been. Along with them there was a large number of new seedlings, some of which will be sent out this autumn, and of which I shall have to speak when I come to review the annual treat provided for us by the French rosarians. I often wondered how the French growers could send us such fine plants as they do; but with soil like this, and that in the district known as the "Brie," where immense quantities are annually grown for the Parisian nurserymen, it is easily accounted for.

M. Verdier had a very large quantity of Maréchal Niel, and both at home and abroad large stocks of this favourite flower will be ready to supply the immense demand that there is for it. When I had gone through the grounds I had a long talk with M. Verdier's intelligent foreman on the subject of Roses in general, and found that the fame of our pot Roses had reached him, and that great astonishment had been created at their excellence at the great International. By-the-by, was there ever a richer thing than Professor Koch (not the Rose, but the hero himself), saying he was surprised to find the English so far advanced in civilisation? Are we, then, to the dreamy, tobacco-loving, saurkraut-eating natives of the Fatherland the rude islanders as of yore? As I returned to Paris a thunderstorm, such as one often meets with there, burst over Vitry and Paris, and not a Rose would then have been worth looking at, so that a day which promised to be one of disappointment, was after all a very enjoyable one.—D., *Deal*.

WORKING MEN'S FLOWER SHOW AT THE AGRICULTURAL HALL.

DURING the past week a working men's Flower Show was held at the Agricultural Hall, Islington, in connection with the Metropolitan and Provincial Industrial Exhibition, and considering that the subjects exhibited were grown within the range of the London smoke, many of them in the most densely populated districts, and that, too, not by professed gardeners, but by those busily engaged in other avocations, the result achieved was most creditable to the exhibitors, as well as to Messrs. George Gordon, Broome, of the Inner Temple, and Green, of Hornsey Road, who freely gave their services in carrying out the arrangements, and to whom the success of the Show is in a great measure attributable. Several nurserymen and gardeners also testified their willingness to assist by sending plants, &c., for the decoration of the room. Thus, Messrs. A. Henderson & Co., Mr. Williams, Holloway, and Mr. Burley, Albert Nursery, Bayswater, contributed a variety of fine-foliaged plants; Messrs. Downie & Co., sub-tropical plants; Messrs. Carter & Co., plant cases, a fine collection of Gladioli, and large Vegetable Marrows; Messrs. Barr & Sugden, the two former, and a collection of Onions; and Mr. Legge, of Edmonton, fine stands of Dahlias. Two fine Doodles, about 18 feet high and valued at £20, were shown by Mr. Glenny, Fulham; whilst Mr. Prestoe, Victoria Park; and Mr. Young, gardener to R. Barclay, Esq., Highgate, sent a large number of fine-foliaged and other ornamental plants, in addition to which, Mr. Young also contributed collections of Apples, Pears, and vegetables. By far the most interesting exhibition, however, furnished by non-competitors, was a collection of some two hundred specimens of Conifers, contributed by Mr. Gordon, whose work, "*The Pinetum*," is an authority on the subject. Among these we noticed the Californian *Pinus aristata*, *P. Parryana*, *flexilis*, *Londoniana*, *Buonapartes*, *Sabiniana*, *Coulteri*, *Massoniana*, *Balfouriana*, *Gordoniana*, *ayacahuite*, *insignis*, distinct from *radiata*, and *Fremontiana*; *Picea appolinis* (blunt-leaved, whilst *P. cephalonica* has sharp-pointed foliage), *religiosa*, *Pindrow*, *Webbiana*, *ambigua*, *nobilis*, *Abies Douglasii*, *Standishii*, with glaucous foliage, a

* I cannot understand my friend Mr. Radclyffe's statement about this Rose. I did not see it at the International; but it is as unlike *Alba rosea*, *altia* Madame Bravy, as one can well imagine.

remarkable cluster of the cones of *Pinus pinaster minor*, presented to him by H.R.H. the late Duke of Cambridge, and specimens of other rare and interesting species.

Among the plants exhibited there were several very good *Fuchsias*, especially those from Mr. Gray, one of which, *Conspicua*, would have done credit to any gardener. Fine-foliaged plants and hardy Ferns, as shown by Messrs. Eickhoff, Long, and Trushell, were well worthy of notice, and the Cacti, *Mammillarias*, &c., from Mr. Capping were most creditable. Geraniums were fair, Dahlias good, and Asters generally very good. Messrs. Eickhoff and Long had also well-grown groups of Ferns, succulents, &c., and near these were some flower-garden designs neatly executed with sand and flowers. Mr. George, gardener to Miss Nicholson, and Mr. Hester, Clapton, contributed dinner-table decorations; and two or three good bouquets were likewise shown. Some fair out-door Grapes came from Mr. Koblich, of Knightsbridge, Russell, of Hampstead, and others. Mr. Paig, Grove Terrace, St. John's Wood, had designs for rockwork, and in another part of the Hall were natural flowers, fruit, and leaves coated over by the electrolytic process, exhibited by Mr. Peters, of Middleton Street, Clerkenwell.

It is gratifying to have to add, that the attendance of visitors was very large.

Subjoined is a list of the principal prizes:—

FUCHSIAS.—Six: First, Mr. Gray, Copenhagen Street, Islington. Second, Mr. Green, East Greenwich. Third, Mr. Hughes, Leyton. Three: First, Mr. Gray. Second, Mr. Green. One: First, Mr. Gray. Second, Mr. Green.
GERANIUMS.—Three: First, Mr. C. Matthews, Lea Bridge Society. Second, Mr. Gray. One: Prize, Mr. Gray.
BALSAMS.—Six, Three, and One: Prizes, Mr. Green.
LILYUMS.—Six: Second, Mr. Long, East Tower Hamlets Society. Three: First, Mr. Fort. One: Prize, Mr. Freestone.
FINE-FOLIAGED PLANTS.—Six: First, Mr. Long. Second, Mr. Trushell, Stoke Newington. Third, Mr. J. Dracey, Lea Bridge Society. Three: First, Mr. Eickhoff, East Tower Hamlets Society. Second, Mr. Long.
HARDY FERNS.—Six: First, Mr. Eickhoff. Second, Mr. Long. Three: First, Mr. Trushell. Second, Mr. Eickhoff. Third, Mr. Capping. One: Prize, Mr. Eickhoff.
DAHLIAS.—Twelve: First, Mr. E. Matthews, Lea Bridge Society. Second, Mr. C. Bent. Third, Mr. J. Dracey. Six: First, Mr. C. Bent. Second, Mr. E. Matthews. Third, Mr. Bishop. Six Fancy Kinds: First, Mr. Cant. Second, Mr. Greenfield, Leyton.
ASTERS.—Twelve: First, Mr. C. Matthews. Second, Mr. Rose. Third, Mr. Greenfield. Six: First, Mr. Tyler. Second, Mr. Greenfield. Third, Mr. Bishop.
GLADIOLI.—Six: Third, Mr. Russell.
TABLE DECORATIONS.—First, Mr. George. Second, Mr. Hester.
BOUQUETS.—First, Mr. Russell. Second, Mr. C. Bent. Third, Mr. Gardner.
DESIGNS FOR GARDENS.—First, Mr. Powell. Second, Mr. Murray, Leyton. Third, Mr. Sandford.
 Several extra prizes were also awarded.

HORTICULTURE ON THE CONTINENT.

ONE of the greatest benefits which horticulture confers on the human race is undoubtedly its pacific tendency. Small jealousies and short rivalries apart, there is nothing inherent in the taste for gardening which should disturb the progress of mankind towards its proper end, but there is also very much that contributes towards universal brotherhood and interchange of good feeling between communities. With satisfaction, then, do I extract such sentiments as the following from a French horticultural journal:—"All our sympathies are due to the approaching Exhibition of 1887. This work of peace, this grand contest of labour and skill, was almost the only thing which of late, when Europe was in flames, found favour and a place amongst us. When France seemed called to mingle in the fratricidal strife we saw all journals deplore the delay of the epoch fixed to crown the efforts of honest labour." On this side of the Channel these sentiments will find a ready sympathy and a cordial welcome. Now that a prospect of quiet seems assured we turn with renewed interest to further details of the forthcoming Paris Exhibition, and, of course, to that portion of it devoted to horticultural objects especially.

These are stated as follows:—One-fourth of the park round the central building is devoted to horticultural display. M. Alphand and M. Barillet have the charge of organising this portion, which will be artistically laid out. Two streams, forming cascades and torrents, will traverse the park; in their waters will play the famous carp descended from the original ones imported by Francois I. There will be aquatic plants, vast grottoes, with aquaria, which are said to be on a gigantic scale, and clumps of choice trees and shrubs, among which will rise the eighteen glass structures destined to shelter the exotics. Coquettish tents and rustic chalets will be at hand to secure promenaders from sudden storms, and charming kiosques for the weary. The jury will assemble in the "Crystal Palace" or central building. In one of the angles will arise a novelty worthy of all success, a botanical diorama. Further details are promised in October.

The extreme humidity of the season has had a disastrous effect on gardens on the Continent. Accounts from the Vine-producing countries are still more deplorable. Hail showers, during this most important season, have done the Vines considerable injury. At any rate, the quality of the wine cannot be good, or average. Meanwhile, the plague of insects continues to suggest numerous remedies. The most reasonable of these insist so strongly on the necessity of clean foliage and branches, that it proves how much these apparently simple precautions are everywhere neglected. Minute directions are given for the immediate removal of dead leaves, lichens, and the destruction of insects as soon as they appear. Some discussion as to the cause of mildew also shows how differently cultivators are apt to regard these matters. In the case of some orchard-house trees here, mildew has certainly arisen from cold draughts. Too much air has been given when the atmosphere was charged with humidity, and the glandless Peaches can be distinguished at once by their whitened shoots. Your correspondent would, therefore, take this opportunity of warning others as to giving too much air suddenly. After a house has been shut up for hours nothing is more common, and few things more hurtful, than the practice of throwing open every ventilator at once. As regards in-door culture draughts are really as dangerous to plants as they are to invalids. In either case it is only when the temperature is so high that it cannot be much lowered that it is prudent to admit unlimited air. Of course our foreign friends are speaking of trees in the open air, but the Editor seems to reject abrupt atmospheric changes as the principal cause of mildew, and brings forward the case of plants under glass as a proof. "Can we not maintain the temperature in these houses at almost a mathematical uniformity?" When we hear of retarding the periods of ripening, by admitting cold draughts of air, we naturally anticipate an attack of mildew.

An excellent institution has just been created at Paris, and one worthy of being imitated and improved upon here. A committee of competent men has been formed, whose object is to examine working gardeners, and to grant them diplomas. Almost everything in France is thus conducted, and very good results follow. Did the working gardeners of England really know their best interests we should hear of more desire for such tests of merit. No country in the world produces such well-informed men as the great gardeners of this country; but it is the second and third-rate men whose standard requires raising, or at least measuring by some rule. An employer would be better able to obtain precisely the kind of superintendence he needs, and, as a necessary consequence, the possessor of a diploma would obtain better pay.

At the first sitting of the Committee no less than twenty-three working gardeners presented themselves for examination. They were examined in four classes, comprising all the requirements of horticulture, and including the principles of vegetable physiology and the elements of botany. Thirteen "passed," but ten were "plucked." This is quite refreshing to hear, the more so as the names of the successful candidates are conspicuously published. How would some of us like to undergo a similar test?—T. C. BRÉHAUT.

DETECTING POISONOUS MUSHROOMS.

COULD you favour me with a plain, easy test by which to know an edible Mushroom from a poisonous one? I have consulted several florist friends, and all had to confess their ignorance of the subject. In Scotland Mushrooms are plentiful, but are quite neglected, owing to the uncertainty regarding them, and I know it would be esteemed of general interest if such information could be conveyed.

As a suggestion, is there no chemical way of discovering the poisonous varieties of *Agarici*? If the nature of the poison is in all the same, then there might be a way by steeping or otherwise in chemicals, by the change of colour, to know the wholesome from the poisonous. This, at any rate, if practicable, would be a simpler test than marks and colours.—*AGARICUS*.

[We know of no chemical test which would serve for a guide to the wholesome species of *Fungi*. It is probable that amanitin, their poisonous constituent, is present in almost every species, and that it is only when it is contained above a certain amount that it is injurious. If this be so, then only a rigid analysis could determine the safe and the unsafe species. In addition, it has to be regretted that one species, *Agaricus personatus*, which is safe in one state, has been found to be poisonous

good results can ever follow), but little preparation beyond removing a considerable portion of the old soil and supplying its place with new will be required.

FLOWER GARDEN.

Hollyhocks and Dahlias will still require occasional looking after to secure them against the effects of high winds, which may now be expected. Unless seed is wanted, cut away decayed flowers and useless shoots, for although late, every care should be taken to preserve them in beauty for as long a time as the season will permit. Herbaceous plants will require to have the stalks of decayed flowers removed, and such as are still in bloom carefully tied up. Asters, some Phloxes, &c., will now be making a fine show, and should have corresponding care bestowed upon them. Let the borders be cleaned and neatly raked over, filling up vacant spaces with spare Chrysanthemums and spring-struck Pansies, or spring-flowering bulbs. As the season is now considerably advanced, the propagation of all the more important bedding-out plants should be brought to a close as quickly as possible, late-struck cuttings are difficult to keep through the winter, owing to their having an insufficient number of roots and ill-matured wood. Let Scarlet and other Geraniums struck in the open ground be taken up and potted immediately they have made roots. They will require a close frame for a week or two. The removal and transplanting of evergreens may be undertaken from the present time to December with more chance of success than at any other period of the year, and for large specimens no other season should, if possible, be selected. The natural warmth of the soil placed about the roots, and the close damp weather generally prevailing in the autumn months, are the principal causes operating to insure success; add to this a tendency (well known to those who have planted largely at all seasons), in plants to form roots more readily after the season of active growth, and during the ripening of the wood, than at any other. Whether planting is done in masses, or singly, the ground should be well trenched and drained before attempting to put a plant in. For single plants a mere round hole just sufficient to hold the roots is not sufficient, but the ground for some distance around should be well worked-up to facilitate the progress of the future roots, as well as the escape of water. As each tree or shrub is planted, secure it from the action of high winds. Mulch the surface to prevent evaporation from the soil. Cuttings of Laurels, Privets, Box, Aucubas, and various other evergreens may now be put in, and the layering of others which do not strike readily from cuttings, proceeded with.

GREENHOUSE AND CONSERVATORY.

A portion of the stock of Chrysanthemums should be placed under glass to forward them; thin out the bloom-buds, and water with liquid manure. In arranging Pelargoniums for the winter, allow them the lightest and warmest part of the house, unless there is a separate house for them, when the Fancies should have the best end. Keep them close to the glass, and do not allow them to touch each other. Those cut back late may yet be shaken from the old soil and repotted, placing them, however, in a slight bottom heat afterwards to facilitate their rooting. Any of the Chinese or Indian Azaleas which have not yet perfected their flower-buds should be kept on a warm and light shelf for a while. The same may be said of Camellias which flowered late in the spring. Those of the latter required to blossom shortly should be kept in a warm situation, and receive liquid manure occasionally.

STOVE.

Give abundance of air here at every opportunity, and assist the plants to complete their growth in a strong and healthy manner. Do not attempt to bring growing plants prematurely to rest, with the view of ripening the wood, but keep them steadily growing until they go steadily into a state of rest. Many plants, especially Ixoras, may be induced to make growth during the winter as in the summer. Sprinkle the walks and pathways once or twice daily, and bedew the plants occasionally with tepid water on bright days. Maintain a brisk temperature in the daytime, but allow the temperature to fall about 60° at night.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Cauliflower.—Took the opportunity of a dry day to prick out small plants intended to furnish the earliest Cauliflower next spring, under glasses, and trust they will be more fortunate than the earliest last year, as many of those thus planted out,

and other fine plants in pots, were cut down to the ground by rats and mice, and to obtain heads as early as usual we were forced to hurry on a score or two under some old glass sashes. For early gathering we have found no plan better, on the whole, than planting under hand-lights, so that the plants may be hurried on in spring by protection, after being kept hardy all the winter. Under each hand-light, from 18 to 24 inches square, we generally place nine plants at equal distances, and in spring thin these out to five, one in the centre, and one at each corner. The advantage of hand-lights is, that the plants obtain light all round; the disadvantages are, that there seems to be a wonderful attraction between the glass of these lights, and the tools and the boots of the workmen. Hence, no doubt, the greater economy, where carriage is not a serious consideration, of having large circular glasses, in bell-glass fashion, and of commoner thick glass, and with a hole or lid at the top like a Sea-kale pot. These, as used in many market gardens, cannot be very easily broken. Where carriage is an object, and hand-lights are disliked for the trouble they give in storage and breakage, no more useful appliances can be found in a garden than small boxes—say 2 feet square, the front board 6 inches deep, the back board 10 inches deep, and the sides sloping to match, the top glazed, and made so as to be easily slid or lifted off, as little or much air is wanted. If the glazed sash project a little over the front, excessive moisture may thus be better thrown off, than in the case of hand-lights, and the annoyance of breakage will be reduced to a minimum. Boxes of 18 or 20 inches might answer as well as those 2 feet square, and altogether the box would cost much less than a hand-light, and when not wanted out-doors would be useful for cuttings, and many other purposes in-doors.

Pricked out a lot of plants on a sloping bank, at 3 inches or so apart, to be transplanted again, potted, or have a common frame with sashes set over them for the winter. In planting under hand-lights, or in thus pricking out, it is a good plan to stir some quicklime in the soil for a foot in depth, to kill any worms and slugs that may be there, and then cover with a couple of inches of sandy loam, and half an inch of rough sand on the surface. The sand helps to keep off slugs, and prevents the necks of the plants from damping, and this fresh surfacing will be sufficient rooting-space for the plants, until the ground beneath becomes mellow and sweet from the lime. A dusting of lime on the surface soil, and of rough ashes round the outside of the hand-lights, all help to keep vermin away; but with all this the plants must be next to daily examined when young, as when so small a few bites from a snail will destroy them.

Lettuces.—Planted out small plants in front of an orchard-house, and on sloping banks out of doors, the latter either to stand there in winter, or to be transferred under protection when larger. Large plants in perfection have suffered much from the rains, having become rotten in the heart, from continuous moisture. Planted out more Endive at the foot of a wall, and had lime and ashes strewed amongst them.

Celery.—Cleared off a piece of latish Peas, dug shallow trenches 2½ feet apart, and planted strong plants of Celery, at from 6 to 9 inches apart in the row. These will be useful in spring. Similar plants slightly earthed-up in the beginning of winter, taken up with balls in March, and planted up to their tops in coal ashes, kept us in Celery until the early summer months. Tied up the forward Celery in beds, and just covered the surface with an inch of soil to protect the roots. The plants would have been stronger if we had had less rain, as then they would have received some manure waterings, which we could scarcely give them, as though Celery can hardly be over-watered, it will not thrive in stagnant water, or when treated as a pond or marsh plant. Even in its wild state it shows to best advantage by the side of a sluggish stream. Owing to so much rain we shall not finally earth-up more than will keep us going until the soil be drier, and we have the chance of obtaining a quantity of coal ashes from the mansion, and sifting them. We shall then put the ashes round the Celery in the process of earthing-up, so as to keep worms and slugs from discolouring it.

Cabbages.—Planted out the last bit of Coleworts, which, if the winter be at all mild, will come in early in spring, before the autumn-planted Cabbages. Planted out about half the space we intend for Cabbages in the Onion ground, treated as described last week; but the next morning showed that rabbits and hares had been about, though we could not find them, and therefore were obliged to surround the piece with a net, supported by stakes. We presume these young plants give them a much sweeter mouthful than older, tougher plants, as they might have a good feed in the old Cabbage quarter near at

hand, bristling with young sprouts, and what they might take would scarcely be missed. These young Cabbages, sprouting from the old stem, are very nice, and especially in such a dripping season as the present; but a young Colewort from a sowing early in May, just when the heart is becoming firm and a little yellow, we consider more sweet and tender still, and therefore we think it good to have several successional plantings of them in summer to come in from August to spring if the winter be at all moderate.

Mushrooms.—This dripping weather, with little sun, has been unfavourable for the drying of the Mushroom spawn, alluded to last week, and left in an open shed. We may be obliged to take it to an open place under glass, such as the orchard-house, to make it dry enough for spawning and working. In the open outside shed cleaned the first part of the bed of all litter with a soft broom, watered with manure water, and covered again with a little dry hay, as that bed is not by any means exhausted. The slight covering keeps the temperature more equable, and also secures a certain degree of moisture in the air immediately over the bed, which is a favourable condition for the growth of most of the fungus family. Swept also over the surface of the second piece, in which the Mushrooms are peeping up, and covered again with rough dry hay, which we generally save from the pleasure grounds. The object of sweeping is to keep the surface smooth and hard, as otherwise the spawn would be apt to run into the roughish surface of litter. In a house heated by any of the usual modes, and with the means of securing a moist atmosphere, such coverings are not so much required, the beds are a prettier sight when in bearing, and the cleaning of the surface will not be needed; but, even in such a case, when we want a bed quickly in, the covering is of much assistance by securing moisture next the bed, and an equable temperature. One objection to the covering of hay or litter is, that if more than one person go to gather from the bed the young button Mushrooms are apt to be displaced when you do not want them. This could be avoided and more neatness secured by having some rods fixed 6 inches above the bed, and the space covered with a cloth or druggut. Even a thin cloth or mat would answer if there were a sprinkling of hay over the Mushrooms. By lifting up a piece of the cloth you could see at once where to gather. As we have been blamed now and then for not giving reasons for particular modes of practice, and as many object to covering their Mushroom-beds when it can be done without, we would say that on the whole we like the practice, and our reasons for adopting it are the securing something like regularity of moisture and temperature at the surface of the beds.

Mushroom-house.—This we have had smoked twice after closely shutting up, by burning each time about 2 lbs. of sulphur in it. We do not think that much having life would retain it after that. This is a simple lean-to house at the back of a vinery. The sloping roof is smooth-plastered, and when dry, many years ago, it was brushed over with oil, to prevent the moisture acting on the plaster, and rotting the laths, &c. The place between the plaster and the wood and slates was stuffed with straw, to keep cold and heat out. We would like to oil the ceiling again to preserve the roof. As soon as practicable we shall scrub all the walls and sparrow wooden shelves with a rough hard broom, and then will limewash the brick walls. Owing to such precautions we have seldom any trouble with our earlier beds, but in the case of late beds we are troubled with woodlice and snails, notwithstanding all our care, and these, no doubt, come in them with the manure and soil, and roots of Sea-kale and Rhubarb.

We see no chance of obtaining droppings enough even for a bed or two in this house, and, therefore, we have had a lot of long litter, with some droppings in it, thrown into a heap, and well watered to make it decompose; and that, turned once or twice until it is about half sweetened, will do very well for the main staple of a bed, or beds, with a few droppings on the surface.

We forgot to say that we have spawned the third piece in the open shed, and in a day or two, finding all right, we earthed it up and covered the surface of the bed. This we expect will begin to bear about the first week in November, and will be followed by the first bed in the house. From the beds in the shed, however, we generally have some gatherings throughout the winter, if we do not turn them out as manure for the ground. As for ourselves, we have not seen a Mushroom in the pastures this season. We suppose there has been too much rain, otherwise the close moist atmosphere ought to have been peculiarly favourable for Mushrooms.

Cucumbers.—Banked-up frames to keep them in bearing until those turned out in the heated pits begin to come in. Our out-door Cucumbers did little good this season. They do so well about Sandy and Biggleswade in the open field, sown in rows, that we wished to try them; but here we would prefer falling back on the old plan of giving them a rough hotbed below their roots to start them with.

Untimely Work.—There are few gardens in which work cannot be so arranged as to secure the comfort and health of the workmen. Where garden men are often seen at work, with their clothes drenched to the skin, and clinging about them, there is evidence either of great want of consideration and carelessness on the part of the manager, or most mistaken views of sound policy on the part of the employers or proprietors. We have known cases in which horses and cattle were brought in, well dried, and comfortably housed, whilst the farm men were turned out to clear ditches and water-courses, and the garden men to mow or trench. The first of these operations, clearing water-courses, will often be necessary in the worst weather, but the men engaged in such work should have the opportunity either of drying, or rather shifting their clothes, as soon as possible. We have mowed for days with the water gurgling out of our shoes at every step, the rains literally going in at the neck and out at the heels; but what good or benefit could accrue from such a system to any of the parties concerned?

We have heard such a system defended, by young gentlemen especially, as good for making young men hardy, asserting that they themselves have been drenched repeatedly, and pretty well all day, when out shooting, and never felt any harm from such a practice. Circumstances very much alter cases and their consequences. We have read long ago of northern mothers, who, to secure the hardiness of their offspring, broke a hole large enough in the thick ice in order that their babes might have a cold enough dip in the early morning, and they, probably, gained their object in those that survived; but history says nothing of the numbers of the more weakly that succumbed under the hardening process. However uncomfortable wet clothes are when clinging to the body, however dangerous they are at times, when by a rapid evaporation of the collected moisture the body is inordinately cooled, the danger is reduced to a minimum so long as the body is kept in constant exercise, and dryness is secured when the body is in a state of comparative repose.

Just contrast here for a moment the voluntarily imposed labours of a sportsman in a wet day, and the necessity of working through the allotted hours in the case of the farm or garden labourer in similar weather. In the first place, as the time of the sportsman is his own, in the common acceptance of the term, he can leave off when he chooses, and if he must stop for refreshment, he can do all that is needful in a few minutes, and commence walking again. The labourer must keep to the allotted hours of work; and mealtimes, from his sitting or reposing, are to him great sources of danger. And again, the sportsman when he reaches home, not to speak of a bath, can at least at once divest himself of his wet clothes, give plenty of friction to the skin, encase himself in dry apparel, and enjoy himself in such comfortable circumstances that the actual soaking may be attended, by the contrast, with something like a newly-discovered pleasure. How few labourers are so well off as to be able thus to change their clothes. How few young gardeners are there who could do so, especially if two or more wet days succeeded each other. How few are there who live in lodgings that could expect to have their wet clothes comfortably dried; and not a few have known the sensation of putting on in the morning the wet undried clothes they had taken off the previous night. Need we wonder that healthy young gardeners who passed through such ordeals in their youth have become prematurely old, or that the seeds of rheumatism, lumbago, sciatica, and other evils should be so thickly sown broadcast in the system, as to yield a plentiful harvest of pains and penalties at the early period of from forty to fifty years of age?

Thanks to growing intelligence and increased benevolence, there is less and less to be seen of such untimely employment, and in most places none at all, unless when some particular object is to be gained, and must, if possible, be accomplished in a definite time, and measures can in such solitary instances be taken to guard against all injurious consequences. Instances of such ill-timed labour will continue, however, to present themselves until,

First, all such instances are generally considered the result of want of consideration and a deficiency of thoughtful fore-

casting arrangement on the part of the manager. Not many years ago we noticed a number of men in a sharp frost and a drifting snow shivering, and attempting to nail trees against a wall, when their fingers would scarcely hold the shreds and nails; and not long afterwards, in the same place, the same men were cleaning and washing Vines in a vinery in a bright warm day, and with the sun powerful enough under glass to dry up what brains there might be in the head. Again, we have a vivid recollection in another place of two days' mowing in drenching weather, and then a day's washing pots, and pointing and making sticks in delightful, sunshiny, dry weather. Let us hope that those who can arrange work no better than this will soon cease to have workmen under their control.

Secondly. We may be presented with such instances until managers and paymaster employers become thoroughly convinced of what is a simple yet stern truth—that all such unseasonable labour will be found to be the reverse of economical or remunerating. Every kind of machinery to work well must have its needs attended to, and in proportion to the intricacy and fineness of its movements must be protected from risks and dangers. The human body, even as a working machine, to do its work well, must have its wondrous combination of joints, cranks, and levers kept clean, bright, well oiled, and cared for, and not alternately baked by heat and drenched with floods of water. What machinery could stand that without becoming worn and rusted in its joints, and cracked or weakened in its levers? and the human machine, as a machine, will form no exception. Nothing could be more effectual than a frequent repetition of wet clothes for insensibly turning the active, willing, somewhat enthusiastic workman into the man who draws his feet along as if he had a clog of metal attached to them. We have no clearer recollection of anything than this—that after some such days' drenching it required several days of bright weather to bring back again that buoyant spirit that acted more than lubricating oil to the joints of a machine, and the usual activity in working; for let it never be forgotten that in the human machine mind and sensibility are the great motive springs of action. Allow these springs to become lax, soft, weak, and exhausted, and you may wind and wind, but the attempt will be vain to make the works go as before until the central spring of all movement is again made right. Men, when they say nothing, are quick enough to know when their employers mean to use them well. Those who will have the stated hours of work out of doors wet or dry will have the certain reward of seeing that the same men who, with the full conviction that they were cared for, would think nothing of doing on an emergency one and a half or two days of ordinary work in one, and feel honoured and proud to do it, will neither be spurred nor coaxed into such extra exertion; and even though their right principles would repudiate all idea of eye-service, yet even insensibly to themselves, and without idleness, the want of interest, the want of earnestness, the want of that enthusiasm without which nothing great can be done will gradually lessen by a fourth, a third, and a half the mere quantity and quality of the work which formerly they usually performed. It is sad when the springs of action lose their force and power. It is often sad to hear complaints of carelessness, indifference, and even laziness among workmen, when a very little kindness and a felt attention to their interests, would so wind up the springs of sensibility that work would be entered upon as a pleasure and a delight, and not as a mere matter of routine and necessary duty. Attention to duty is a grand thing, and it becomes truly noble when it nerves the workman to continued right conscientious action, even amid neglect and discouragements; but after all, the claims of duty as a motive power for faithful continued industry, will ever be weak when compared with that strong flexible mainspring of action which is formed from the more than respect felt by a workman towards his employer, when he cannot help seeing that that employer does respect, think of, and care for him.

Thatching Corn Stacks.—An allusion to Dutch barns, and the injury done by rain to stacks unthatched, has brought several notes of inquiry, and several sad details, as to how stacks got up in good order on a Saturday, were, by the soakings of several days before they could be thatched, wet and much spoiled for fully half their depth. We think that Mr. Barnes, of Bicton, could tell the farmers hereabouts and farther north, how much of such an evil could be avoided by the mode of putting the sheaves in the stacks. We recollect when noticing the smallness of the stacks in Devonshire, and there being no out-jutting eaves to throw off the wet, being told that both small size and the want of eaves were necessary to protect

from the terrible winds, and that the introduction of rain into the stack was impossible from the way in which the sheaves were placed, the corn end being always kept much higher than the root end. In noticing the placing of sheaves in this neighbourhood, the corn end is seldom higher, and often much lower than the root or straw end, consequently, when heavy rains fall on the straw end, it runs along the straw to the ears in the middle of the stack, whilst if the ear end of the sheaves were elevated about 15° above the root end, the rain that fell on the outside, without thatching even, would have dropped outside instead of finding its way to the centre. We recollect that one of our "first doings" of work pretty far north, was assisting the builder of the stacks in harvest, placing the sheaves ready to his hand, and keeping the centre of the stack well elevated, so that the sheaves should all incline outwards.

FRUIT GARDEN.

The weather being still too wet to clear Strawberries or gather fruit, the chief work was removing all flowering plants from the vinery, to prevent the watering these required injuring the Grapes by damping. Cut the runners of Strawberries in pots, and potted some more, but as we are becoming scarce of pots, will turn out some hundreds of plants in 60-sized pots, in nice soil, so that they may be lifted into pots or into beds under glass next spring.

ORNAMENTAL DEPARTMENT.

Went over the plant-houses, removing what was past its best, and introducing fresh from pits, &c., so as to make more room in them for winter storage. Went on making cuttings and potting and securing Chrysanthemums, &c. Mowed and cleaned as the weather was suitable. Would do a deal of turfing if we could, and would like to transplant some rather large trees and shrubs in the beginning of October. A little syringing overhead in that month after such transplanting, will save much, if not all of the watering that would be required by these trees next spring and summer. Evergreens may now be removed with safety, and the great advantage of planting in October is, that then the earth is warm enough to set the roots in operation at once, to be ready to suck up nutriment for the swelling buds and expanding leaves next spring.—R. F.

COVENT GARDEN MARKET.—SEPTEMBER 29.

THERE is very little doing here in any department, foreign and home-grown produce being ample for all requirements. Pears consist of Marie Louise, Louise Bonne, Gansel's Bergamot, Gratioli, and Duchesse d'Angoulême. Dessert Apples comprise Ribston Pippin, Cox's Orange Pippin, and others of less note. The Potato trade is heavy, except for good sound parcels, which have advanced 10s. per ton. The accounts from most parts of England represent them as being quite one-third blighted.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	2	0	0	0	Melons..... each	2	6	0	0
Apricots doz.	0	0	0	0	Nectarines doz.	0	0	0	0
Cherries lb.	0	0	0	0	Oranges..... doz.	10	12	0	20
Chestnuts bush.	0	0	0	0	Peaches..... doz.	2	0	0	0
Currants ½ sieve	0	0	0	0	Pears (dessert) .. doz.	1	0	0	0
Black doz.	0	0	0	0	" kitchen .. doz.	1	0	0	0
Figs doz.	1	0	2	0	Pine Apples lb.	3	0	5	0
Filberts lb.	0	6	1	0	Plums ½ sieve	7	0	0	0
Cobs 100 lbs.	0	6	1	0	Quinces ½ sieve	0	0	0	0
Gooseberries .. quart	0	0	0	0	Raspberries lb.	0	0	0	0
Grapes, Hothouse. lb.	2	0	5	0	Strawberries lb.	0	0	0	0
Lemons 100	8	0	14	0	Walnuts..... bush.	10	0	14	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes each	0	2	0	4	Leeks bunch	0	8	0	0
Asparagus bundle	0	0	0	0	Lettuce..... perscore	1	0	1	6
Beans, Broad. bushel	0	0	0	0	Mushrooms... pottle	1	6	2	6
" Kidney .. ½ sieve	2	0	3	0	Mustd. & Cress, punnet	0	2	0	0
Beet, Red..... doz.	2	0	2	0	Onions..... doz. bunches	4	0	6	0
Broccoli bundle	1	0	1	6	Parsley ½ sieve	2	0	0	6
Brus. Sprouts ½ sieve	3	0	3	6	Parsnips doz.	0	9	1	3
Cabbage doz.	1	0	2	0	Peas..... per quart	0	9	1	0
Capicums 100	2	0	3	0	Potatoes bushel	2	0	4	0
Carrots bunch	0	4	0	6	" Kidney doz.	8	0	4	0
Canflower doz.	2	0	6	0	Radishes doz. bunches	0	6	1	0
Celery bundle	2	0	3	0	Rhubarb bundle	0	0	0	0
Cucumbers each	0	4	1	0	Savory doz.	0	0	0	6
" pickling .. doz.	2	0	0	0	Sea-kale basket	0	0	0	0
Endive doz.	2	0	0	0	Shallots lb.	0	8	0	0
Fennel bunch	0	8	0	0	Spinach bushel	3	0	0	0
Garlic lb.	1	0	0	0	Tomatoes..... per doz.	1	0	2	6
Herbs bunch	0	8	0	0	Turnips bunch	0	4	0	0
Horseradish .. bundle	2	6	4	0	Vegetable Marrows dz.	0	9	1	0

TRADE CATALOGUES RECEIVED.

William Rollisson & Sons, Tooting, London, S.—*Catalogue of Hyacinths, Dutch and English Flower Roots, Roses, &c.*

Ambroise Verschaffelt, Rue du Chaume, 50, Ghent, Belgium.
 —*Priz-Courant pour L'Automne, 1886 et Printemps, 1887.*
 Louis Van Houtte, Ghent, Belgium.—*Catalogue of Flower
 Roots, Azaleas, and Camellias—Catalogue d'Oignons à Fleurs,
 Bulbes de Serres et de Plein Air.*

TO CORRESPONDENTS.

.. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

BOOKS (*Constant Reader, U. Norwood*).—You can have the following from our office free by post:—"The Garden Manual" for twenty postage stamps, "Window Gardening, by R. Fish," for ten postage stamps, enclosed with your address. (*Learner*).—Hentrey's "Rudiments of Botany," and Hogg's "Vegetable Kingdom," will suit you.

VINE LEAVES CRIMSONED (*Vine Leaf*).—The colour does not indicate disease, but that the functions of the leaves are ceasing. The leaves of Black Champion, Black St. Peter's, and some other Vines assume this colour as they fade.

ROSE (H.).—There is a legion so nearly like the buds enclosed, that we cannot venture to name it.

INSECTS ON FUCHSIA LEAVES (*S. W. Wiltshire*).—They are destroyed by thrips. As the contents of the whole house, Vines, &c., are similarly scourged, we would dust everything with a mixture of equal parts flowers of sulphur and Scotch snuff. So soon as the leaves have fallen we would remove and burn these, scrape the loose bark off from all the stems, and paint them over with the same mixture made creamy with soft soap and water. Next year prevent the occurrence of the pest by admitting more air and keeping the air moist. There must have been great neglect of these requisites.

WHITE GRAPES AT THE ABERDEEN HORTICULTURAL SHOW (*A. one, Aberdeen*).—No one can form a judgment entitled to any weight unless he saw the Grapes. Condition, form of bunch, weight, flavour, &c., have to be compared.

VINEPIES (H. W.).—Before referring to your present queries we would direct attention to what was said by "H." at page 238; but for covering a width of 18 feet we do not think that you could do better than have a hipped roof. Of the three elevations sent No. 2 will answer well, and so will the mode of planting. In No. 1 we would have the drainage in the middle of the house, and the concrete and rubble sloping to it from front to back; and then we would plant in front as proposed, about 2 feet from the front, and also along the back wall, the Vines taken up and trained down beneath the span and rafter. This would leave the centre of the house for any other purpose you might wish. Planting in the centre, as in No. 2, would do very well, but we should prefer the above arrangement. You cannot have a return-pipe at the back of the house on a higher level. By the plan proposed you could have it on the same level as the pipes in front; but either in that plan or in No. 2 you could more easily have it close to the flow-pipes. The easiest plan would be to take the flow from the boiler underneath the doorway, let it rise aboveground afterwards, and then take it into a socket wide enough for inserting your flow-pipes, which at the farther end would go into another socket-pipe, with an opening in one end for connecting the return-pipe. Thus your flow-pipes would rise all the way to the extreme end, and your return-pipe would do the same, and thus fall regularly as it returned to the bottom of the boiler. You might with advantage distribute these pipes more regularly over the width of the house; but all the flows must be connected with the main flow from the boiler, and join in one main pipe at the farther end, to which the return-pipe must be attached. In your case the return-pipe may be on the same level as the flows until it approaches the boiler. Now to the questions: 1st, Return, no higher than the flow. 2nd, Ventilators correct. 3rd, Support the pipes at or near the joints with small piers or holdfasts of iron rising from the concrete; the former are preferable. 4th, 3 or 4 feet apart, according as the house is to be occupied solely with Vines, or with these and other plants beneath them. 5th, Except the shelf or stage, not with Vines on the back wall. With Vines in the middle of the house you could have Figs, if the Vines on the roof were 4 feet apart. You might also plant in front, and in the middle, and in both cases train upwards. 6th and 7th, 15 or 18 inches. 8th, Yes, if you plant in the middle of the house, and do not let in plenty of light from the roof. 9th, Yes. 10th, Yes, but one inch in eight or ten would be better. 11th, Drainage is essential. 12th, For tall plants a shelf may be placed as proposed. For Strawberries a wide one under the hip would be useful. Before the Vines cover the roof or come into full leaf shelves may be suspended 18 inches from the glass. With Vines against the back wall and in front there might be a low stage in the centre. 13, Tank as proposed will do. Many prefer a cistern several feet above the highest pipes, and placed near the boiler, with a pipe from it to near the bottom of the boiler, kept constantly open; but in this case there must be small air-pipes at the highest end of the pipes. We must never again have such a tissue of queries.

CUCUMBER-HOUSE (*A. R. L.*).—For early Cucumbers you had better have a bed on each side, and then you will require three times the quantity of piping—that is, three pipes in each chamber, with the means of letting the heat from the chamber into the atmosphere. The single pipe in the other houses will do what you intend.

HARDY FERNS (*A Lover of Ferns*).—The following would endure your Lancashire winters:—*Allosorus crispus* (Mountain Paralep Fern); *Athyrium Filix-femina* (Lady Fern), and its varieties *apustroformis*, *plumosum*, and *multifidum*; *Asplenium viride* (Green Spleenwort); *A. trichomanes* (Black-ribbed Maiden-hair Spleenwort); *A. adiantum-nigrum* (Black Maiden-hair Spleenwort); *A. ruta-muraria* (Rue-leaved Spleenwort or Wall Rue); *Blechnum spicant* (common Hard Fern), and its varieties *ramosum*, *cristatum*, and *lanceifolium*; *Cystopteris fragilis* (Brittle Bladder Fern), and its variety *dentata*; *C. alpina* (Alpine Bladder Fern); *C. montana* (Mountain Bladder Fern); *Polypodium vulgare* (common Polypody); *P. phegopteris* (Mountain Polypody or Beech Fern); *P. dryopteris* (Smooth Three-branched Polypody or Oak Fern); *P. Robertianum* or *calcareum* (Limestone Polypody); *P. alpestre* (Alpine Polypody); *Polystichum aculeatum* (common Prickly Shield Fern); *P. angulare* (Soft Prickly Shield Fern), and its varieties *proliferum*, *imbricatum*, and *polydactylon*; *Pteris aquilina* (common Brake); *Lastrea thelypteris* (Marsh Buckler Fern); *L. montana* or *Oreopteris* (Mountain Buckler Fern); *L. Filix-mas* (Male Fern, or common Buckler Fern), and its varieties *paleacea* or *Borreri*, *erosa*, *Schofieldii*, and *cristata*; *L. rigida*; *L. cristata*, and its varieties *uliginosa*, and *spinulosa*; *L. dilatata*; *L. semula*; *Scolopendrium vulgare* (common Hart's-tongue), and varieties; *Woodia ilvensis*; *Osmunda regalis*; and *Ophioglossum vulgatum* (common Adder's-tongue). The above are British, to which you may add *Oncoclea sensibilis* (Sensitive Fern); *Polystichum proliferum*, *P. acrostichoides*, *P. pungens*; *Pycnopteris Seboidii*; *Struthiopteris germanica*, *S. pennsylvanica*; *Woodwardia radicans*; *Cyrtomium falcatum*; *Oncidium japonicum*; *Osmunda interrupta*, *O. cinnamomea*, and *O. spectabilis*; *Asplenium angustifolium*, and *A. Halleri*.

STRAWBERRIES FOR SUCCESSION (*Subscriber*).—Black Prince, Sir J. Paxton, Elopse, Keens' Seedling, and Marguerite for early and second early; Comte de Zans, Rivers' Eliza, Wonderful, Dr. Hogg, Sir Charles Napier, La Constante, Frogmore Late Pine, Bickon Pine, and Orange Chili for medium and late varieties.

ASPECT FOR FIGS (*Idem*).—To fruit successfully in our climate, Fig trees require a south aspect and protection.

TREES FOR SHELTER (*Idem*).—For a group of four it is necessary that the trees be all the same, and they may be either Oak, Beech, Chestnut, Elm, or Lime; we should prefer the last.

WHITE DAHLIA (*W. G. B.*).—The white seedling Dahlia is a very promising one. If all the flowers it produces should be equal to the first which opened, it will be a first-class flower; but it would be very indelicate to form an opinion from one flower, especially the first. It is usual to send three. Name this seedling, and send three flowers to the Floral Committee of the Royal Horticultural Society, and you will soon learn its merits and value.

PLANTING BEDS FOR SPRING-FLOWERING (*S. G. W.*).—In the middle of the centre bed we would have a good plant of *Cupressus Lawsoniana*, a band round it of white and blue Hyacinths alternately, another of red Hyacinths, and an edging of *Arabis lucida variegata*. Two beds of the eight surrounding the centre bed we would plant with tree Box 18 inches high as a centre, and edge with Snowdrop and Winter Aconite; two with *Berberis Darwinii* in the centre, using as an edging blue and white Crocus alternately; two with white Pottsbakker Tulips in the centre, surrounded by a ring of scarlet Duc Van Thol Tulips, and edged with *Scilla sibirica*; and two with some scarlet Tulip, such as scarlet Duc Van Thol or Vermilion Brilliant, a band of yellow and blue Crocuses round these, and an edging of white and striped Crocuses. We would plant the whole of these beds in match pairs, every bed corresponding in colour with that on the opposite side.

STRAWBERRIES ON VINE-BORDER (*A Subscriber*).—You may leave the Strawberries on the border to fruit next year; but we cannot say it will not injure the Vines, as we think the Strawberries will impoverish the soil, prevent the sun warming it, and exclude air; and you cannot protect the roots from cold. We do not recommend anything to be grown on Vine-borders.

ITALIAN TUBEROSES (*J. C. B.*).—They may be grown the second year in pots, and will do tolerably well, but not equal to the first season. Under the usual treatment they become exhausted like Hyacinths, but they may be grown without this taking place. If your bulbs are fine and firm we should give them a trial.

ASPHODELS (*Idem*).—These are for the most part evergreen, and do not require a period of rest like Dahlias. If planted in an open and sunny exposure in a dry, well-drained soil they usually take care of themselves. As to their being worth growing, that depends on taste and on the kind. Some are elegant and have pretty flowers.

HEATING BY HOT WATER (*G. M.*).—It does not matter, whether for heating two houses you have one main flow-pipe from the boiler, and then branch off by a T joint or otherwise; and on the whole it is as well that the return-pipes should be one on each side of the boiler, though that does not make much difference provided these returns enter near the bottom of the boiler. We can conceive a close boiler and the return-pipe in one house being higher than the flow-pipe in another house, and without any prejudicial result. We cannot conceive how in the same house the return-pipe can be higher than the flow, though for their position in the house they may be exactly on the same level, the only difference being that one is connected with the top of the boiler, and the other with the bottom. If the heat rises as freely by the pipe at the bottom of the boiler as by the pipe at the top, it is a sure sign that the boiler must be dangerously hot. We can conceive a pipe from the top of a boiler going all round the house and rising as it goes until at its highest as it approaches the boiler; but then there must be an air-pipe or cistern, and a pipe dipping at once to the bottom of the boiler. Your boiler would have been better if 6 inches longer.

GLADIOLI AT CRYSTAL PALACE.—"I suppose I must have in my report written 'Messrs. Kelway,' and cannot charge the blunder on the printer; but if I did it was a complete *lapsus calami*; for, as I said, I know that the trophy was Mr. Prince's, and the other collection Mr. Kelway's, and that both were awarded equal first prizes. I beg Mr. Prince's pardon for misreading his notice, and for my carelessness in the matter.—D., Deal."

GRAPES NOT RIPENING (*J. L., Ireland*).—We do not know the "Euton Muscat." In a cool house, as the Muscat ripens neither wood nor fruit where the Hamburg does, we would graft or inarch with Royal Muscadine or Buckland Sweetwater if you wish for a white Grape.

THE POTATO DISEASE (A. R.).—The fungus causing the disease is *Botrytis infestans*. It was first noticed in Great Britain in 1845, source unknown. We do not think that a good Mushroom season is at all coincident with the prevalence of the Potato murrain. There is no such thing as a generating of fungi in the atmosphere. The fungus on the Tomato fruit is not identical with that of the Potato tuber. The best mode of avoiding the disease is to cultivate none but varieties that have their tubers ready for storing by the end of July.

BOTTOM OF PIT FOR WINTERING (J. C. Beale).—You may tile, brick, slate, concrete, or plaster the bottom of your brick pit intended for bedding plants in winter, or you may cover with the driest chalk you can find; but remember that the more you prevent moisture rising, the more careful you must be not to give a drop of unnecessary water in winter, even to taking the trouble of taking plants out when you water them, and allow them to be drained before replacing them. If you use a stage or platform at all you need not mind about the bottom of the pit, but you may cover with dry ashes, and as they become moist replace with others, or dry chalk, &c. For a permanent bottom on which the plants are to stand nothing is better than bricks or tiles.

FLORETS' FLOWERS (A. Subscriber, Southampton).—A florist's flower must be very remarkable to be named from a single bloom. There are myriads so nearly alike that we cannot venture to assign names to them.

NAMES OF INSECTS (J. Colegate).—The thread-like worm is *Gordius* aquaticus. It belongs, like the leech, to the class Suctorior, or suckers; scarcely exhibits any marks of articulation on its body, and has no distinct respiratory organs. Its colour is pale brown, and its being found in such a twisted form suggested its name after the inventor of the Gordian knot. The mouth is a simple pore at the fore extremity of the body, which is conical; but the tail being forked, as represented at a, has



often been mistaken for its mouth. Its habits are little known, but we are inclined to think it one of the friends of the gardener, for two parties observed one escape from the body of a beetle, which they found writhing on the ground. (J. Bryan).—It is *Sirex gigas*. Its larvæ are deposited in the wood of the Pine tribe, in which they bore holes.

GREENHOUSE (A. Subscriber).—Though the house will not be in the best of situations, we see no reason why common greenhouse plants will not do well in it. In fact, Camellias, Oranges, &c., will do better than if they had more sunlight.

HORSEFEASH FOR VINE-BORDERS—FRUIT FOR WALLS (A. B. C.).—Do anything with horseflesh except putting it in a Vine-border. Does your wall face east on one side and west on the other? Then, if appropriated to Apricots and Peaches, we would plant the north ends with Apricots, and the south end with Peaches.

SEEDS FOR A GARDEN (Young Gardener).—The expense for seeds for a garden such as you name would depend greatly on having established or new kinds. As a rough guess for the one-and-a-half-acre kitchen garden, one-acre flower garden, and the houses, we should say from three to five guineas, and even more, according to the number of crops, &c.

VARIEGATED JASMINE (E. P. Francis & Co.).—“Your golden variegated Jasmine is very pretty, and in the present rage for variegated plants and shrubs it ought to be much sought after. While giving one the idea of the Japanese Honeysuckle (*Lonicera aureo-reticulata*), it has the advantage of free blooming to add to its beauty. It seems very constant in its variegation.”—D., Deal.

BOWWOOD MUSCAT VINE (G. S.).—The Royal Horticultural Society distributes cuttings of Vines and of other fruit trees to the Fellows on application, but not plants of fruit trees. The other questions next week.

WASPS IN VINERY (Carling).—Trap them after they are inside; but it is better to prevent their entrance by means of perforated zinc, wire gauze, or muslin. Hand-glasses form very good wasp traps, and there are various other means of destroying the insects without resorting to the highly objectionable one of employing poisonous substances.

NAMES OF FRUIT (J. B.).—Not Alfriston, and we cannot say what Apples are very difficult to name this year. (C. Marden).—Summer Golden Pippin. (J. E. K.).—Apples: 1, Alfriston; 2, Yorkshire Greening; 3, Royal Russet; 4, Scarlet Crofton; 5, Ribston Pippin; 13, Cox's Golden Drop; 14, Brabant Bellefleur; 15, Yorkshire Greening; 19, Barcelona Pearmain; 17, Calabrese (not Beurre Bosc), Pear. (H. Bing).—Jersey Gratioli Pear. (Carling).—1, not known; 2, Downton Apple.

NAMES OF PLANTS (A. B.).—Most likely your leaf belongs to some species of *Senecio*. (*Agriola*).—1, *Davallia canariensis*; 2, *Pellaea folcata*; 3, doubtful; 4, *Scolopendrium officinarum*, var. (A. D.).—It appears to be *Fraxinus sonchifolia*. (A. Young Gardener near Lincoln).—The fruit is *Staphylea pinnata*; and the Grass a *Digitaria*, perhaps *D. sanguinalis*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending September 29th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 23	29.467	29.842	61	37	57½	56½	S.E.	.06	Uniform haze; overcast; rain at night and cold.
Mon. . . 24	29.958	29.849	61	32	58	56	S.W.	.05	Rain; densely clouded; showery; masses of white clouds; at freezing
Tues. . . 25	29.953	29.897	64	45	57	56	S.	.02	Dense fog; very clear, quite cloudless; fine; slight rain. [at night.
Wed. . . 26	29.999	29.899	64	47	57	56	S.W.	.16	Dull and overcast; drizzly; overcast.
Thurs. . 27	29.904	29.815	68	43	57	56	S.	.04	Uniformly overcast; very fine; foggy at night.
Fri. . . 28	29.848	29.662	71	48	58	56	E.	.00	Foggy and damp; very fine; mild at night.
Sat. . . 29	29.877	29.850	70	51	59	57	S.	.01	Overcast; fine; partially overcast; warm at night.
Mean	29.856	29.715	65.57	43.28	57.64	56.21	..	0.84	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

VULTURE-HOKED BRAHMA POOTRAS.

THINGS change, and the change is so gradual as to be almost imperceptible. It is like the alteration in our features—it comes on by slow degrees, and though we have a sort of recollection of what we were, it is the present that is always with us. We pass by a shop tenanted by a man with a name “ending in i,” and at the counter we see three or four errand boys enjoying their ices on a hot summer's day. As we walk along the streets we are struck by the sight of costermongers' barrows laden with Pine Apples. The meanest public-house entices its customers by placarding in hot weather that all its drinks are iced. And then our costume; beard, moustaches, gaiters; our colours (immortal honour be to Owen Jones, who in 1851 broke up the conventional drabs, blacks, and blues), sober colours for those who like them, but men or women may choose for themselves, and wear what they like. The Polish Jews some years since were the only men who wore beards. What would be said now if one of that creed appeared, as formerly, with three hats stuck one on the other on his head? Such a gear was a Jew's sign-board. A humorous writer says, speaking of them, “Old hats, oranges, sealing-wax, and all.” To wear a white hat was to be hooted or admired, as the case might be, for a radical; any alteration in the accustomed costume caused one to be looked at and pointed at as a foreigner. There was but one hat, and that was—well, what was it? I will try to illustrate it. A savage, or one considered such, was once brought

to France where the process of civilisation was begun, and he was soon sufficiently advanced to be left by himself. He was provided with proper clothing, and showed an evident inclination to become a dandy, bestowing much attention on dress. He was provided with a cap, but longed for a hat. This luxury was refused him. He was left one winter's day in a room where there was a stove. It stood, as they often do, in the centre of the room, and had a pipe to convey the smoke into the chimney. After he had been some time by himself the house was observed to be filling with smoke. There were fears that our embryo dandy had set it on fire. No such thing, however; he had only cut out a length of pipe, and having flattened the bottom of it all round, he sat in conscious dignity—he had a hat. All sorts of caps were taken in preference to a “chimney-pot,” as it is sometimes called; but, save for boys, caps do not take in England. Then (the day should be marked with a white stone), appeared a soft, pliable hat, that you could sit down upon, or put in your pocket, or crumple up. People, however, did not dare take to them openly. They wore them in out-of-the-way country places; at the sea-side, in their gardens, and wherever they could not be seen; but the wearer of one of them was always supposed to be a careless, reckless fellow, one who had roughed it, or one who had ceased to mind the world's opinion and could hold his own—was, in his own language, “up to a thing or two;” and so the hat was called a “wide-awake.” We used to see Tyroleans with feathers and flowers in their hats, and think what odd men they were to wear them; now everybody, gentle and simple, wears a fancy hat; and one puts in a feather, another a flower, but all wear decorations of one sort or

another. We are used to them, and do not notice them. It would appear that in these things, as in many others, to stand still is to be left behind, and change seems to be necessary. The lesson to be learnt from all these changes is, that society accepts them in a perfectly good spirit, without condemning those who adhere to the old style, or over-admiring those who adopt the new. There is a wonderful virtue in the habit of making the best of everything, and in allowing people to be right although they may differ from us. He who wears a white hat is no longer shouted after. Nine out of ten men wear either deer-stalkers or wide-awakes without being stared at. I wish to see the same spirit introduced into poultry arguments.

We want differences of opinion to exist without being supported by thinly veiled personalities, or unkind insinuations. I allude to the letters that have appeared on the question of vulture hocks in Brahmas. If it can be shown that they are a characteristic of the breed, or even an improvement, although a recent introduction, I have no doubt those among the public who breed them will hasten to secure the new point. There is no reason why the rules that were laid down years ago should never be altered, but they will be alterations. Years ago errand boys did not eat ices, nor would a penny buy a dessert of pine apple for a working man; it is a novelty and an alteration. It is said that in a foreign country where all the inhabitants were humpbacked, a straight man entered church during divine service. The minister was praying, and he prayed for the deformed man who had just entered. So the time may come when the one pen in a Brahma class lacking the vulture hook may be the object of ridicule and pity. I cannot help thinking those who originally framed the laws, and erected the standards by which poultry is judged, did so wisely and well. There has been little or no alteration for many years, and progress has proved that the setting forth was guided by sound principles.—BRAHMA, N.V.H.

ROUGH NOTES ON ERRORS AND OMISSIONS IN THE POULTRY CLUB'S "STANDARD OF EXCELLENCE."

(Continued from page 246.)

MALAYS.—General shape, first part as in the "Standard." Back, very short and not very long, and rather round, instead of flat. Body, very short, and not long and round. Wings, very short, even to the body. Breast, rather narrow. Thighs, shorter than the legs in proportion, but well in to the body. Hen to correspond with cock, one-third smaller in size.

Cock.—Invariably "yellow or daw," and never red at all, as in "Standard." A great mistake. Wing, with green bar, and never blue. Breast, either reddish, yellowish brown, or greenish black. Colours, yellowish, brownish red, greyish yellow, white, pilled or pied, and black. Legs, either yellow or yellowish olive-green. Skin, very yellow indeed.

Hen.—To correspond in all the colours with the cock. A "red-eyed" Malay is an impossibility.

The "Standard," has omitted four varieties of the GAME FOWLS, which are all occasionally exhibited. The *Dark Greys*, *Dark Birehens*, *Red Duns*, and *Blue Duns*. The former two sorts are seen at most exhibitions, and Red Duns won the first prize at Sheffield in 1857. Blue Duns are rare, and are seldom exhibited. The Dark Birehens are a very different bird from the Yellow Birehens, being dark-eyed and dark-legged. They are closely allied to the Dark Greys and Brown Reds, being bred from these sorts. The Yellow Birehens, on the contrary, are nearest allied to the yellow-legged Duckwings, a much lighter bird. The term olive-legged is rather promiscuous, there being olive-green, olive-brown, and olive-bronze. The Black-breasted Reds are of a much redder colour than the Brown Reds, which are always either of a browner or more brassy colour than any other Reds. The Brown Reds are as much superior in shape and carriage as they are inferior in beauty of colour to the Black-breasted Reds, as a general rule. The Brown Reds are "gamer," and possess a more enduring courage than any, Dark Greys excepted.

In judging Game fowls, the preference should be given to the white-skinned birds over the yellow-skinned, as being more English and "gamer," except in the willow-legged Black-breasted Reds, and willow-legged Duckwings, which are prize birds, and should be yellow-skinned, as also should Blue Duns, being yellow-legged. The yellow-skinned show more of an East Indian origin. The willow-legged Duckwings are the "gamest" of all the willow-legged Game fowls.

The recognised exhibition sorts in most localities, I believe,

are the following nine:—1, Black-breasted Reds, most common; willow-legged (cup birds). 2, Brown-breasted Reds, next most common, the first bird (cup birds). 3, Duckwings, willow legs, red eyes; Silver-Grey hens. 4, Red Piles, white legs, red eyes; the Cheshire breed. 5, Blacks, black legs, black eyes; Black and Brassy. 6, Dark Greys and Dark Birehens, black eyes and legs; dark hens. 7, Whites, red eyes only, white legs only. 8, Red Duns or Ginger Blues. The red-eyed the best. 9, Blue Duns, yellow legs, yellow eyes; all blue dun-coloured.

Willow, black, and white legs are the exhibition colours of legs; but the black, white, and carp-brown-legged birds are "gamer" than either willow, blue, or yellow-legged birds. For eyes, black and red are the only true Game eyes.

The Malays and the Bantams are well known to be the shortest in body of all poultry, the Malays having very short wings, carried high; and the Bantams, long wings and carried low. The wings of Game fowls should be just intermediate between these two sorts, which is about true perfection as far as symmetry goes. The Malays may sometimes have a yellowish-bay eye from crossing, but their true characteristic is the "yellow or daw eye" always. Malays are a most worthless variety of poultry, being great, cowardly, coarse, yellow-fleshed birds, though not bad layers, but worst for table of all. They vary in weight from 8 or 9 to 6 lbs. in the cocks.

The "Standard," seems to have omitted the large Black Brahma Pootras altogether, a breed often seen. The feather of Malays, I omitted to state, need not be hard like the Game, but is more loose, coarse, stringy, and woolly than the Game feather. The "Standard" is well arranged, was no doubt much required, and is only at all erroneous in Game fowls and Malays.—NEWMARKET.

DROPSY (?) IN SPANISH FOWLS.

The following seems so curious that I shall be very glad if you will kindly give me your opinion.

A Spanish cockerel, a month old, keeps forming large air-bladders immediately below the skin. Yesterday he was like a round ball with a pair of legs, wings, and a beak. As soon as I was satisfied the bladders were filled with air, I opened them in three places, and there was a collapse as if an indian-rubber ball had been pricked. He appears in excellent health. He is running free in the stable-yard with forty others of about the same age.—J. D. S.

[This case of Spanish-fowl disease is not the first we have met with of air and fluid between the skin and flesh. Our experience leads us to believe the cockerel's present health will not last long. We have always found it a fatal disorder. We are obliged by the disorder being thus made public, and shall be glad of any one's relative experience.]

WOODSTOCK POULTRY SHOW.

The annual meeting took place in Blenheim Park, on September 18th. The Show was a very superior one, the fowls, &c., being quartered in convenient wooden pens. Some of the Ducks sent by the Duchess of Marlborough were of extraordinary dimensions, and the fowls were altogether well represented.

DORKINGS (Coloured).—Prize, Duchess of Marlborough. *Chickens*.—Prize, Duchess of Marlborough.

BRAHMA.—Prize, Duchess of Marlborough. *Chickens*.—Prize, Duchess of Marlborough.

COCHIN-CHINA.—Prize, — Hurman. *Chickens*.—Prize, H. Church.

HAMBURG (Spangled).—Prize, — Hurman. *Chickens*.—Prize, J. James.

GAME.—Prize, J. Hutt. *Chickens*.—Prize, J. Hutt.

GERSE (White).—Prize, Duchess of Marlborough. *Geese*.—Prize, J. Hutt.

GERSE (Grey).—Prize, Duchess of Marlborough. *Geese*.—Prize, H. L. Gaskell.

DUCKS (Aylesbury).—Prize, Duchess of Marlborough. *Ducklings*.—Prize, Duchess of Marlborough.

DUCKS (Coloured).—Prize, J. Hutt.

TURKEYS (Black).—Prize, Duchess of Marlborough.

TURKEYS (Grey).—Prize, Duchess of Marlborough. *Poult*.—Prize, Duchess of Marlborough.

Prizes offered by A. W. Hall, Esq., for the best pen of Poultry bred in 1886.—Prize, J. Hutt. *Chickens*.—Prize, Duchess of Marlborough.

WOLVERHAMPTON POULTRY SHOW.—The classes are confined to birds hatched in 1886, except in the case of Ducks and Pigeons. The first prizes are £2, and the third 10s. The hall in which the Show will be held is well suited for the purpose; in fact,

the existence of a room so suitable may be considered the chief reason of the Show being established there. The entries for poultry close on the 6th inst.

CLEVELAND AGRICULTURAL SOCIETY'S POULTRY SHOW.

THIS was held at Stockton on the 19th and 20th of September; the birds were well taken care of in a good tent. The following is the list of prizetakers:—

SPANISH.—First, O. A. Young, Driffield. Second, Rev. J. G. Milner, Bellerby, near Leyburn.
DORKINGS.—First, Rev. J. F. Newton, Kirby-in-Cleveland. Second, O. A. Young.
COCHIN-CHINAS.—First and Second, G. Calvert, Darlington.
PHEASANTS (Golden).—First, C. Greenwood, Harrogate. Second, O. A. Young.
GAME.—First, P. Sturdy, Ingleby Greenhow, Northallerton. Second, W. Lee, Middleham, near Bedale.
SINGLE GAME COCK.—First, T. W. Other, The Bank, Leyburn. Second, O. A. Young.
ANY BREED OR CROSS.—First, National Poultry Company, Limited, Bromley, Kent (La Flèche). Second, W. Lawrenson, Eaglescliffe, Yarm. (Silver-pencilled Hamburgs).
BANTAMS.—First, W. Lawrenson (Black Red). Second, P. Jefferson, Thornaby (Black Red).
DUCKS (Aylesbury).—First, R. Just, Stainton. Second, C. R. Anderson, Middlebrough. Commended, O. A. Young.
DUCKS (Rouen).—First, W. Lee, Middleham, near Bedale. Second, J. Kilvington, Aislaby, near Pickering.
DUCKS.—First, Rev. J. G. Milner. Second, J. R. Jessop, Hull. Commended, E. Hutton, Pudsey, near Leeds (Brown Call).
GEES.—First, Mrs. Braithwaite, Stokesley. Second, O. A. Young. Commended, C. R. Anderson. *Goosings.*—Prize, O. A. Young.
TURKEYS.—Prize, Mrs. Braithwaite. *Poult.*—Prize, H. Markin, Driffield.
JUDGES.—Mr. C. Dearlove, Bedale, and Mr. S. Burn, Whitby.

THE SCHEDULE OF THE BIRMINGHAM POULTRY SHOW.

SINCE my letter in your Number of September 11th, I find my complaints have been fully endorsed by more able writers than myself. The letter of "GAME COCK," in the succeeding Number, complains loudly of the gross outrages in the Game classes, and I can quite believe all he says. The continuance, for these classes, of judges whose awards have been shrouded in mysteries that have never been cleared up, is, indeed, monstrous. The arbitrators for the other classes, whose awards have for the last few years given such general dissatisfaction, are, perhaps, men of a character who would be only guided by honest motives, and award the prizes as correctly as their knowledge would enable them; but it is most unsatisfactory to exhibitors and breeders of poultry—who are decidedly the best judges—year after year to notice these glaring blunders, and to make appeals in vain for more competent men. Opposed to all reason the Committee still persist in appointing the same old staff, whose names only appear as arbitrators once a year, and that for the Birmingham Show. Their judgment might have been undeniable fourteen years ago, but want of experience now fails to enable them to award the prizes correctly at shows of the present day. If there were no remedy it might be tolerated, but we have several judges both capable and willing—gentlemen of high standing, whose names appear as arbitrators at all our leading shows, and whose great practical experience enables them to award the prizes correctly, and to the entire satisfaction of exhibitors.

Is it not something painful to notice in the pages of your Journal, and of others, such condemnatory articles written by the great supporters of this Show? We have no such letters upon the management of other exhibitions, but find the Committee-men will always listen to the opinions of exhibitors, and remedy any evil that may exist.

We have now the Manchester schedule before us, and it is a long way in advance of that of Birmingham—prizes varying from £10 to £1, entrance-fees not so high, the picked judges of England to award the prizes, pens large enough to hold the birds, and all on one level, and management undeniable.

I feel more strength now than in my last to once more caution the Birmingham Committee, that they will let Manchester leave them a long way in the distance.—AN OLD EXHIBITOR.

MIDDLETON POULTRY SHOW.—The Rev. Richard Roy's (Skirbeck Rectory, Boston), Golden-pencilled Hamburgs were omitted in our list of prizes and honourable mentions at the

late Middleton Show. His pen of pullets was "commended." We regret also to have to mention that the poultry and Pigeons at that Show were unprotected from the weather. A list of exhibitions where the poultry are unsheltered ought to be published for the benefit of exhibitors.

[We received a defensive letter from the Secretary, just as we were going to press. It shall appear next week.—Eds.]

NEW BOOK.

"*The Poultry-Yard: How to "Farm" It to Make the "Crop" Pay. Interspersed with Cases in Point, and Argued by Comparisons with Game, the Horse, &c.*" By J. I. LUSHINGTON. London: Rogerson & Tuxford. Price 6d.

THIS is a very funny little book. I do not say but that there are some useful things in it, still the funny element is certainly the predominant one. The title-page, which I have given in full and just as printed, is undoubtedly very funny; so is the "Nota Bene" at the end, that end being this little book's forty-eighth page—so it is but a little book, what the Scotch call a "bookie," and we south of the Tweed a pamphlet. I presume, from internal evidence, that it is the work of a gentleman, and not a lady; that the initials "J. I." stand for John Isaac, not Julia Imogene. I presume, too, that the writer is, in addition to poultry, fond of farming and racing. I received the book one fine summer's morning; I took it and my camp stool to a favourite spot in my garden, where I can both watch my chickens and also get a peep at my Roses, and I there read and re-read it; for Mr. Lushington has produced a very readable book, which is something—nay, now we are deluged with books, is—much.

"The Poultry-Yard: How to Farm It." Well, before farming a yard, the said yard must be ploughed up, I should fancy. "To make the crop pay." The word "crop" usually refers to oats, wheat, beans, &c., but here it means birds. "Interspersed with cases in point:" this looks legal. "And argued by comparisons with game, the horse, &c.:" this looks both legal and sporting. So much for the title-page. Now for the book itself. Mr. Lushington, after a good and pleasant remark or two about the irresistible inclination we almost all have towards poultry-keeping, proceeds to quote two lines of certainly not high-class poetry—

"I look from my window, and what's to be seen?
An ass on a dunghill, a goose on a green."

Stating what is undoubtedly true, "that an ass can hardly be placed under the head of poultry." Poets are next quizzed; and then our author turns to his own book, this veritable and funny pamphlet, and perpetrates many puns thereon, saying, "I will venture to hope that those who may think it worth their while to give it a perusal, may find among its *leaves* at all events some few *opening buds*, the *petals* of which, &c." We soon after have the image of the town-bred man with his little walled-in yard, instead of running to the shop at the corner, running, the moment he hears a hen cackle, to his hen-house for an egg. Mr. L. moralises on this, and is afraid he shall get back to poetry again. Then Mr. L. claims to be an original, puns about his own "walk," and fears he has "departed from his text." I fear he would make but an indifferent preacher, according to his own account.

Chapter II. is entitled "Stock." It appears to me that Mr. Lushington is not a poultry fancier, and has no sympathy whatever with that weak fraternity. Such, I fear, he deems them; for—tell it not at Hinton, near Bath—he speaks of "the unmusical roar of the Brahma," and states "that this poultry fever, like the Australian gold fever, and, in short, many other ephemeral disorders, has now pretty nearly died away, though the majority of our fowls are tainted with —." But no further, or sal volatile and scent-bottles will be rung for by all lady fanciers and our readers—the two terms are synonymous. Now really, Mr. Lushington, do go next December to the Birmingham Show, and then, if you can, say that the poultry fancy has died out; or, to cure you, let me advise doses of "our Journal" administered regularly once a-week. Mr. Lushington goes in for Dorkings pure and simple, and from his own point of view he is perhaps right.

He states in regard to the hatching of Game fowls, "They sit so perseveringly and so well upon their eggs, that I believe they will frequently hatch in less time by a day, or perhaps more, than many other kinds of hens. In fact, I once had one that hatched in *seventeen* days; but she sat upon her own

eggs, of which she had but six, therefore they were always under her breast." Can this statement be true? Was the time of sitting the hen noted in a pocketbook, for memory is treacherous? Concerning the scratching powers of Game hens Mr. Lushington uses an illustration which will make the hair of florists stand on end, for he images the hen and her chicks among newly sown flower-beds.

We have several pages on racing, which I do not pretend to understand, nor see how it has much to do with poultry.

Mr. Lushington objects to testing eggs with hot water a few days before the time of hatching, calling it "the soaking process," and that he is "no advocate for meeting trouble halfway." I would reply, Is it not best to know the worst as soon as possible, and not unfrequently one of two hens may be restored to the yard, there being but chickens enough for one? Mr. L. seems to have suffered in his "walk" from the bad temper of the cook, which perhaps he tried to cure homœopathically, which he tells us he did when his fowl broke its leg; for, says he, "I never attempted to set it, preferring to treat the patient homœopathically—i.e., by fracturing its neck also, for like cures like."

Passing by several chapters we come to the "Concluding Observations," in which Mr. Lushington speaks of "a seat" of eggs, and likens his little book to an "omnibus," of which he appears to me to be the somewhat amusing conductor. Following "Concluding Observations" comes the afore-mentioned "Nota Bene." Very funny and punning it is—nay, Mr. Lushington is funny to the end, for he ends thus—"To the attainment of the desired

END."

But funnier than all comes, "The right of translation is reserved." Think of the labour of a Frenchman: how puzzled he would be at the very funny English!

Well, now, having looked at this book in one way, let me look at it in another. There are many passages which in my copy I have marked "good," but I fear there is little new. There is much good advice as to what Mr. L. says about nests on the ground, and his repeatedly urging that fresh clean water be given to fowls, &c.; indeed I am sure the writer is a humane man. Its humour is not first-class, but 'tis funny—wondrous funny!—WILTSHIRE RECTOR.

RADCLIFFE POULTRY SHOW.

THE annual Show of this Society took place at Radcliffe, on Monday, the 24th of September. The following prizes were awarded:—

SPANISH.—First and Second, N. Cook, Chowbent, near Manchester.
DORKINGS (Grey).—Second, T. Statter, Stand.
GAME.—Cock.—First, J. Smith, Ram's Head, Pilkington. Second, C. W. Brierley, Rhodes House, near Middleton.
GAME.—First, F. J. Astbury, Stand Lodge (Red-breasted). Second, T. Statter.
COCHIN-CHINA.—First, — Bott, Bury. Second, C. W. Brierley.
HAMBOURG (Golden-pencilled).—First, W. Farr, Patricroft, near Manchester.
HAMBOURG (Silver-pencilled).—First, W. Parr.
HAMBOURG (Golden-spangled).—First, S. and R. Ashton, Mottram, near Manchester.
HAMBOURG (Silver-spangled).—First, J. Smith. Second, W. Parr.
POLAND.—First, P. Unsworth, Lowton, near Warrington.
BRAHMA FOOT.—First, T. Statter.
BANTAMS.—First, R. Garsard, Chowbent, near Manchester. Second, C. Pollitt, Spring Lane, Radcliffe.
TURKEYS.—First, E. Luch, the Greave, Rochdale. Second, S. H. Stott, Quarry Hill, Rochdale.
DUCKS (Any variety).—First, E. Luch. Second, T. Statter.
GESE.—First, E. Luch. Second, W. Green, Radcliffe.

BEE-KEEPING IN YORKSHIRE.

I VENTURE on a short account of my bee-keeping operations this season, not because there is anything special to say, but because all details are interesting. We all like to know what others are doing, how far the season has been satisfactory in any given locality, what adventures or mishaps have occurred, and the like; and I think I am expressing a wish that is very general, that a larger number of readers would pay their share of contributions to the common fund.

Judging both from published reports and private correspondence, the season in the south has been incomparably better than in the north, or, at any rate, than in the West Riding of Yorkshire. In this immediate locality we had frost at the end of April and the beginning of May, and on the 17th of the latter month a careful examination showed that many

hives had actually gone back as compared with three weeks previously. There were only six days of warm and really propitious weather in May, and a great part of June was unfavourable. The honey harvest was principally gathered between the 22nd and the 30th of June, both days inclusive, during which time the supply seemed unlimited, and the bees worked from a very early hour till 8.30 p.m. June 2nd and 3rd were also extraordinary days. A honeydew was noticed on the 26th, 27th, and 28th. Strong stocks that were able to take full advantage of this interval have done well; weak stocks and late swarms have done very poorly, and the total is below the average. The cold and wet weather caused breeding to cease unusually early, and, speaking for myself, after July closed scarcely anything could be done in the way of strengthening artificial stocks by means of brood-combs.

My apiary at the beginning of the season consisted of seven stocks, of which four were very strong; two might be considered strong, and one very weak. The surplus honey was gathered by three only of the best stocks, and amounted to 116 lbs., of which, however, only 86 lbs. were available.

Two hives of equal strength, and treated precisely alike, gave very different results. On the 27th of June the super of one was removed quite full, but on examination the queen had made her way up into it, and had bred there so extensively that, being thickly populated, I made of it a separate swarm, and placed a second empty hive upon the stock. This was removed on the 2nd of August pretty well filled, though some of the combs were very partially sealed over. This second box weighed 29 lbs. nett, making a total of 55 lbs. and a swarm. The bees in the companion hive refused to enter the super on any terms; it was in vain that I tempted them with large pieces of empty comb by way of a start, and then with a full honeycomb—it was of no use. Two combs of brood were then transferred from the stock hive, and finding after several inspections that there was a fair population in the super, they were left to go ahead, as the weather was then highly favourable. I thought the bees were at last fairly out-manœuvred, but I was vastly mistaken. In due time I came to this favourite and most populous hive, intent on plunder. I prepared for a heavy lift, and up came the box with a corresponding bounce, literally empty—not a bee to twiddle her antennæ at me and cry "hum!" They had hatched out the brood, and then descended, taking with them what little honey remained in the two combs. For a long time no satisfactory reason appeared to account for this refusal to work in the super, and it looked like another example of "the glorious uncertainty" of bee-keeping; but it has since occurred to me that the hive which was given them as a super had held a Ligurian stock during the winter months, and the taint left by it may have been the cause. Still, having been partially occupied by themselves, and having been placed over their own hive for more than five weeks, one would have expected that anything of this sort would have disappeared. This, however, is the only explanation I can suggest. Clearly it was something objectionable in the box itself, as notwithstanding the lateness of the season, when three glasses were afterwards put on, they were all immediately occupied, and work proceeded rapidly for a week or more, when the season abruptly ended. Another hive gave 34 lbs. of beautiful combs, perfectly sealed over; and though there was in this case no adapter, the combs contained neither pollen nor brood, except a small patch of the latter about 2 inches square.

A circumstance connected with the only natural swarm which I have had this year may, perhaps, be narrated here. I was told on my return home in the evening that one of the hives had swarmed, but which of a group of four was not quite certain. A moment's inspection satisfied me that no one of the four had thrown a swarm, and the others were much too busy to allow of any doubt about them. The swarm must have come astray. But the assurances were so strong that the bees came from my own garden, that this could not be. I took a walk round again, with the same result. This was very much like the old lady with her exceptional letter, who inspected the seal, and the postmark, and the address, and then ran over the list of her friends, quite lost in conjectures as to her unknown correspondent, instead of looking inside. At length it occurred to me to go and look at the swarm, and house it, whether home or foreign produce; but on reaching the spot the hive was empty, which explained the whole affair—the bees had returned to their old quarters, and with the queen at their head. Removing the super, as already related, the swarming instinct being strong upon them, the bees

remained quietly on their new stand, and proceeded straightway to raise a queen, while the old stock worked as briskly as any swarm, and filled the new super very rapidly. The point, however, is this: Three or four days before, a friend pointed out a number of bees flying about a currant bush in a neighbouring garden, and so numerous were they that we both thought a swarm must be there. It was not so, but the swarm in question afterwards settled there, and these were, no doubt, the pioneers. It has been repeatedly said that a second place is sought out and decided upon, and that if the swarm is not hived speedily, it proceeds from its temporary halting place to the final place of settlement. I have always considered this as a doubtful point, and have inclined to think the second flight is often taken at hazard. In this instance, if it was decided to remove, and a second retreat was already provided, why not proceed to it? The queen was only in her second year, perfect in all respects, and able to fly if need were. Had she been lost or injured, the return to the old hive would have been a matter of necessity, but this was not the case; and, after a six-hours sojourn, or longer, not finding their new quarters comfortable, they returned home, having, apparently, no other choice.

The wretched weather, and sundry misfortunes, have prevented my doing much in the way of ligurianising. Only three hybrid queens were raised, and of these one, with her subjects, has fallen a prey to wasps and robber bees, both of which have been a perfect pest this autumn. My stocks have increased to eleven, all being made up to weight for the winter. Sundry notes on a Ligurian hive and an Egyptian hive may stand over for the present, meanwhile I must express my obligations to Mr. Woodbury, who, in consequence of a disappointment in the Ligurian stock sent out by him last year, has handsomely made all defects good and much more.

The following table shows the results above stated, and the condition of each stock at the end of March. Poor as the results are, they are better than the average.

No. 1, Very strong, 55 lbs. of honey and a swarm. 2, Strong, (now a pure Ligurian queen)—a swarm. 3, Very strong, 4 lbs. in glasses (refused super). 4, Very strong, 16½ lbs. in glasses. 5, Very strong, 34½ lbs. 6, Strong—two swarms. 7, Ligurian, very weak—nothing. 8, Egyptian, 6 lbs. in glasses. 9, Hybrid, nothing, very late. 10, Hybrid, nothing, very late. 11, English, nothing, very late. Total, 116½, less 30 lbs. partly bred in, equal to 86½ lbs., and four swarms.—F. H. WEST.

SAVING CONDEMNED BEES.

I INTEND to purchase or beg several stocks of condemned bees, drive them, and bring them home (by rail) from a distance of about eight or ten miles.

Now, if I use as many empty hives as there are stocks to be driven, and drive each stock into a separate hive, what a number of hives (some of which will, perhaps, contain not more than a quart of bees), I shall have to bring home with me!

Why not, after driving the first stock into an empty hive, continue driving others into the same, until it is about two-thirds full, and so on with the remainder, joining two or three in each instance? Will there be much more difficulty in so doing than in simply driving them into empty hives, which way I have been accustomed to? And should you, in such a case, recommend sprinkling with scented syrup between each addition? Or, on the other hand should you recommend driving them all separately at the outset, and condensing the number of hives afterwards, by joining two or three lots together before bringing them home?

Will you kindly tell me how I may distinguish an impregnated from an unimpregnated queen? as I have a few late-hatched Ligurians which have not yet commenced egg-laying, and I should like to know if they have had successful wedding trips, before uniting them to black stocks.—A. B.

[There is no difficulty in driving the inhabitants of two condemned hives into one in the manner you suggest. It is, in point of fact, the plan we usually adopt, but we always select adjoining stocks for the purpose, and then place the hive containing the conjoined bees midway between the two, so as to receive the stragglers from both colonies. Sprinkling with scented syrup is unnecessary, as the bees will unite peaceably without it. In the absence of actual oviposition the fact of fertilisation having taken place can scarcely be determined with absolute certainty, although an expert may form a tolerably correct opinion. A virgin queen is slender and generally very

agile, traversing the combs when disturbed with remarkable rapidity, and being little noticed by the workers, whilst one impregnated soon manifests a degree of *enbonpoint* that compels a comparatively slow and stately progress, during which she receives the caresses and respectful homage of her sisters.]

BOILING POTATOES.

I TELL you, fellow-housekeepers everywhere, that the correct way to cook a potato in any country, provided boiling is the determination, is to wash it clean; let it lie in clean cold water two hours—ten all the better—place it in cold water in the pot, without paring, and boil moderately until the test fork go smoothly through the potato without encountering a mite of core. Then drain off the water, set the pot over the fire, uncovered, for five minutes, after which whip off Mr. Potato's jacket in a hurry, and send him to the table in a close cover, piping hot; or if you are not over-fashionable and fastidious, it is preferable to serve "murphy" in his coat.—(Saturday Evening Post.)

OUR LETTER BOX.

POULTRY ARRANGEMENTS (Charley).—Your can easily keep three sorts of fowls by choosing the proper breeds, and if you allow each one-third of the day to run, it will leave nothing to desire. Do not let one breed run always in the morning, and the others later in the day. Let them take their turn to be out first in the morning, the earth is more fruitful then than at any other time of the day. According to your plan you will have a small portable house for each breed. We would advise you to carry a wooden roof the length of the three pens, and to board one-half of the space to the ground from the roof, allowing the latter to project 4 feet; this will give for each house 8 feet in length, and 4 feet in depth. It should have a door, perch, and laying-box. The remainder of the covered part will make an excellent dust-bath, and also provide a shelter for wet weather. Spanish, Cochins, and Brahmas will answer your purpose well. They are all good layers. Cochins and Brahmas are good mothers, and all bear confinement well. Hamburgs will do well if you prefer them, but before you make that selection, you must recollect you will be choosing two non-sitters out of three pens, and although Hamburgs are hardy, they are not so much so as Cochins. You may keep a cock and six hens of each.

FOWLS DYING SUDDENLY (J. R. B.).—The disease you mention is an uncommon one; but we have met with it, and we are sorry to say it is always fatal. In Spanish fowls the liquid becomes solid. It is rare for chickens to have it. Feed on dry food as much as possible; do not let them have as much water as they like; mix sulphate of iron in all the water they have. The disease is not contagious. Let the fowls have water three times every day for a quarter of an hour each time. Feed them on whole corn and oatmeal. Small chickens will require different treatment; but although your space is sufficient for twelve or eighteen grown-up fowls, it is not large enough to rear chickens successfully.

LIGHT BRAHMAS AT BIRMINGHAM.—"Will my brother fanciers assist me in opening a sweepstakes for a cockerel and two pullets, at 10s. each?—ALBERT O. WORTHINGTON, Newton Park, Burton-on-Trent."

SOUTHERN POULTRY SHOW (A Southerner).—Any further laudatory notice must appear as an advertisement.

CHEAP LIGURIAN QUEENS (Rosa).—I have some pure-bred Italian queens, which I cannot warrant as having mated in their own sphere. These will, however, breed pure Ligurian drones, and being esteemed by some as superior even to the pure variety, and costing but 5s. each, will probably meet your views in respect of economy.—T. W. WOODBURY, Mount Radford, Etceter.

EMPTY BLACK COMBS (Carling).—Whether empty black combs will do to have a swarm into next season depends on the age of the combs. If over two years we should not again make use of them.

STUFFING AND PRESERVING BIRDS (J. B.).—A cheap little volume, we think it is only 1s., and entitled "Taxidermy," has been published.

CIDER-MAKING (M. P. Y.).—To give minute directions would fill one of our pages. An outline of the process is this:—The apples are crushed or ground in a mill, and the pulp placed in haircloth or coarse canvas bags, and subjected to powerful pressure; the liquor which runs off is put into casks, and freely exposed to the air in the shade, and allowed to ferment. This part of the process is carefully watched, and as soon as the sediment has subsided the liquor is racked off into clean casks. Before winter the casks are stored in a cellar, or other cool place, where the temperature is low and regular, and by the following spring the liquor is fit for use or bottling.

ORNAMENTAL OUT-HOUSES (D. W.).—Write to Mr. W. G. Smith, 12, North Grove West, Mildmay Park, London.

POULTRY MARKET.—OCTOBER 1.

THE only alteration to note is the occurrence of Michaelmas. Geese now, however, are fast going out of date. The demand is transferred to Christmas. In giving any quotations of their value, it must be recollected that the price is guided by the size, the quality being the same.

	s.	d.	s.	d.		s.	d.	s.	d.		
Large Fowls.....	2	6	to	5	0	Partridges	1	6	to	1	9
Smaller do.	1	9		2	0	Grouse	1	9		2	0
Fowls	0	0		0	0	Hares	0	0		0	0
Chickens	1	6		1	9	Rabbits	1	4		1	6
Geese	6	0		9	0	Wild do.	0	8		0	9
Ducks	2	0		2	8	Pigeons.....	9	8		0	9

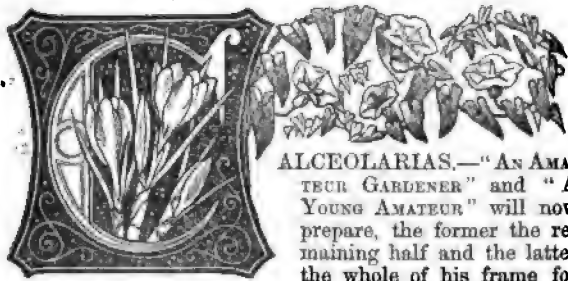
WEEKLY CALENDAR.

Day of Month	Day of Week	OCTOBER 9-15, 1886.	Average Temperature near London.			Rain in last 30 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
9	TU	<i>Drimis altissima.</i>	60.5	42.5	51.5	22	15 af 6	20 af 5	58 6	46 af 5	1	12 41	282
10	W	<i>Drimis revoluta.</i>	61.6	48.9	52.8	23	17 6	17 5	57 7	18 6	2	12 57	283
11	TH	<i>Disporum fulvum.</i>	61.9	42.8	52.4	20	19 6	15 5	58 8	44 6	8	13 12	284
12	F	<i>Dumasia pubescens.</i>	61.7	42.4	52.0	22	20 6	18 5	57 9	19 7	4	13 27	285
13	S	<i>Dyckia altissima.</i>	61.7	42.8	52.0	20	22 6	11 5	52 10	56 7	5	13 41	286
14	SUN	20 SUNDAY AFTER TRINITY.	60.8	41.0	50.6	18	24 6	9 5	46 11	42 8	6	13 55	287
15	M	<i>Echeveria coccinea.</i>	58.9	40.9	49.9	20	25 6	6 5	after.	81 9	7	14 9	288

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 60.9°; and its night temperature 42.5°. The greatest heat was 80°, on the 14th, 1861; and the lowest cold 24°, on the 15th, 1860. The greatest fall of rain was 1.04 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

WINTERING BEDDING PLANTS.

(Continued from page 144.)



the reception of *Calceolaria* cuttings. The site in the first case is fixed, and in the second the situation should be dry, open, yet sheltered from the north and east. It is also desirable to have the ground properly drained either by rubble, if very wet, or by slightly elevating the frame on bricks laid on the flat. My frames are placed on a row of bricks laid flat all round on a hard bottom. There is thus a space of 3 or 4 inches for soil, and I fill it with loam from rotted turves two-thirds, and leaf mould well reduced one-third, properly mixed, and on this I place 3 inches of pit sand. This is all the preparation which my beds for *Calceolaria* cuttings receive, and I seldom lose any. I set the frame so that the lights may face the north, 1st, to retard as much as possible rooting in autumn; 2nd, to prevent shading the cuttings, and at the same time to counteract the drying influence of the sun; and 3rd, to save them from too powerful light and heat after a thaw, when they may have been in darkness and cold for weeks.

The frames are prepared by the middle of October, which is earlier than I like to put in the cuttings, but it is as well to be in readiness, though deferring to take off the cuttings till as late a period as safety from frost can be insured. So long as frosts do not occur, be in no hurry about making cuttings; but it is necessary to take them before the shoots are frosted. I generally put them in from the middle to the end of October, and nearer the latter period than the former. For cuttings, choose shoots 3 or 4 inches long springing from the sides of the old flowering shoots, and that do not exhibit signs of flowering, or which have growing points only. Let them be strong and healthy, and from plants not overcrowded. Slip them from the plant, pare the base below the lowest joint, if they have one close to the heel, or where slipped off; but if not, cut them transversely below the lowest joint, taking the leaves off for two-thirds the length of the cuttings. They are now ready for insertion. Commencing at one side, make holes with a small dibber 3 inches from the side of the frame, and 1½ inch apart in the lines, and insert the cuttings up to the lowest leaves; it is of no moment whether the sand be closed up around the cutting or not. Proceed in this manner, allowing 3 inches between the lines and 1½ inch from cutting to cutting in the rows, until the frame is filled; and if it be well filled it will hold, if 6 feet wide and in two lights of 3 feet each, upwards of a thousand cuttings.

No. 288.—Vol. XI., New Series.

After the cuttings are inserted give a good watering, sufficient to cause the sand to fill up the dibber-holes, if these were not closed when the cuttings were put in. Put on the lights, and keep close until the foliage recovers, and then draw them down whenever the air is not either frosty or foggy; also keep them on when there is rain, tilting them, however, at back. If the weather should prove dry and sunny keep the lights on in the middle of the day, but with air, and draw them down morning and evening, closing them at night, so that the foliage may recover the moisture expended during the day. This will only be necessary for a few days, and generally not at all; for unless the days are unusually sunny the foliage, if it flags in the daytime, recovers at night. All that the cuttings require is air whenever the external atmosphere is above freezing, and of that they can hardly have too much; at the same time the lights must be used to protect them from heavy and cold rains, as well as from frost, and their becoming too much flagged from excessive evaporation. The sand will remain sufficiently moist without watering, it should be moist without being either saturated or desiccated. What we have to do is to keep the cuttings well aired and cool, and if this be properly effected not many, if any, will have rooted before December; and this is all the better, as their not rooting will have kept them from growing, and growth made in autumn is only a drawback to their wintering safely, for if made then it is tender and succulent, and frost cuts it off more readily than that which is more sturdy and hardy. Air, then, and coolness, with safety from frost, are the chief requisites.

A covering of mats will mostly be sufficient to keep out frost until Christmas; but in December the sides of the frame may be banked up with coal ashes, which will prevent frost penetrating to the interior, though I am not particular about this, as, having plenty of dry litter, the sides of the frames, as well as the lights and their covering of mats, are protected with it during very severe weather. For a frost of 8° or 10° below freezing a double covering of mats is all that need be given; but if the frosts are more severe the sides of the frames must be protected by ashes or earth, all the better if dry, or with dry litter, and in addition to the mats a covering of dry litter or straw should be put on the mats, and allowed to hang over the sides; a thickness of 6 inches I have always found sufficient covering, not, perhaps, proof against frost, but sufficient for the safety of the plants. Should the weather be so cold that the covering is not thawed during the day do not remove it, and so long as the ground remains frozen it should not be removed, but be kept on constantly day and night from the commencement of the frost until a general thaw begins, and then it should not be removed until the ground has thawed on the north as well as south side of the frame. The covering should be thoroughly thawed before any attempt is made at removing it, and then do this by degrees—the litter one day, and the mats the next, leaving a single covering of mats for the third day. I do not remove any part of the covering until the third day after a general thaw, and, being three days in uncovering, nearly a week expires before the plants are exposed to

No. 941.—Vol. XXXVI., Old Series.

daylight. I have had them shut up for seven weeks, and they never in all that time had the covering removed or the lights opened—in fact, no attention beyond seeing that the covering was on. I invariably find on taking this off that the foliage is covered with a fine dew, water hanging in drops from the leaves. Air should be admitted very gradually, and if the weather be sunny, throw a mat over the lights for an hour or two during the middle of the day. The foliage under this treatment will soon recover its wonted greenness, and in a week or ten days full exposure to air and light may be given, weather permitting. Air in mild weather, and protection during frost, whether by day or night, is all that the cuttings will require from the time of their being put in until March. Any leaves that may decay should, however, be removed, as well as any flower-stems.

If the weather prove mild the cuttings will have made fine plants by the beginning of March, when the points of the shoots should be pinched out at the third or fourth joint. By the end of the month they will have become much too crowded, and should have other quarters provided for them. Choose, therefore, an open, sheltered situation, and dig out the soil to the depth of 1 foot, laying it on both sides of a trench 3 feet wide, with the like space between. At the bottom of the trench I place 3 inches of well-rotted manure, the same depth of loam from rotted turves if I have it, or, if not, of the ordinary soil, and on that again a like thickness of leaf mould. The trenches are then forked over twice, mixing the manure, loam, and leaf mould as much as possible, and the sides of the trenches being neatly sloped off these have a neat appearance.

In the trenches prepared as above the plants are turned out in mild weather, from the second week in March to the first week in April, in lines 6 inches apart, and 3 inches from plant to plant in the line, care being taken to remove the plants carefully from the frame so as to preserve to each a small ball of earth. Should frost at night be feared no water is given, unless it be so early in the day that the foliage will be dry before night, but some sticks are placed over the trenches at such a distance that mats will be supported clear of the plants. Either at the time of transplanting or the following morning a good watering is given, and the mats are kept on day and night for a few days until the plants recover, when they are exposed fully during the day, but the mats should be put on at night, and kept on by day if frosty. A single thickness of mat will mostly be sufficient, but should the weather prove unusually severe an extra thickness will make all safe. Should the plants become frosted (I never had them so but once), instead of removing the covering to expose them to the sun, do so only for as long as may be necessary to sprinkle them overhead with cold water from an exposed open cistern (not from a pump), putting on the mats again, and an extra thickness of protecting material. Do not uncover again that day, and all will be well the next, or at most there will only be a few blackened leaves which only need picking off. Protection from frost is all the plants will require for a time, or until they become established, and then they will need water copiously, but for safety it should be given in the morning. It may, however, be supplied early in the afternoon if the weather be mild, and there is every probability of the foliage becoming dry before night.

About the middle of April the plants should be gone over, and such of the shoots as need it ought to be stopped to make them stocky, and from this time forward the treatment consists in watering when necessary, and protecting from frost. In the third or fourth week in May they may be transplanted to the beds or borders where intended to bloom, taking care to lift and plant with all the ball practicable.

I have omitted to mention that before turning out the plants in the trenches, advantage is taken of a dry day to tread the compost firm, and in planting the soil is pressed firmly about them. In covering the plants in the trenches, the mats should lie on the soil at the sides and ends, the latter being closed like the sides. Hooping over is not so good as straight stakes laid over the trenches, for it is not to the covering that the safety of the plants is due, but to the heat radiated by the earth, and of this the plants receive more in a trench than on level ground.

Calceolarias to do well require plenty of cool manure, and sufficient space between them. Thick planting only diminishes the number of flowers during dry weather, and renders the plants weakly for future propagation.—G. ABBEY.

ARAUCARIA IMBRICATA.—In the notice of Mr. Mitchell's fine specimen of this tree (page 221), an interesting circumstance connected with it was accidentally omitted. It has this year

seven cones, which are the first it has produced, and, like the beautiful specimen in the pinetum at Linton last year, are all near the top. The Linton tree is the first, I believe, in this country that has produced cones, thus showing how thoroughly this valuable ornamental Conifer has made itself at home here. It may be observed that the older specimens are forming numerous small branches, but at regular intervals, at the extremities of the principal ones springing from the trunk, and that the weight of these gives a pendulous appearance very different from the stiff and formal habit of young plants; the principal branches are also gradually losing their leaves nearest the trunk. This is the true character of the *Araucarias*, and, becoming conspicuous in Mr. Mitchell's tree, greatly increases its beauty.—ADOLPHUS H. KENT.

POTATOES AND PEARS AT GARGRAVE.

I RECENTLY visited the Rev. Charles Marsden's garden at Gargrave, near Skipton, to see his collection of Potatoes, which are grown well there, and after looking through them I made the following notes:—

Mona's Pride.—A good prolific first-early kind, but must not be grown too strong.

Rivers's Royal Ashleaf.—A very early second-early kind, a good cropper, and A1 in quality.

Gloucester Kidney.—A fine kind, but not so early as *Rivers's Milky White.*—A fine flat Kidney, a second-early kind, and a first-class Potato. This kind will be generally grown when better known.

Bradford Kidney.—Like Haigh's in growth, a heavy cropper, and a first-class late second-early.

Lord Raglan.—A capital late second-early, white and mealy when cooked, and very prolific.

Birmingham Prizetaker.—A large-growing Potato, evidently a cross between a Kidney and a Round, but not so promising here as some of the others.

These kinds were the best, and since seeing them Mr. Marsden writes me:—"We had some of the Bradford Kidney for luncheon on Saturday last, and a party of six unanimously pronounced them to be the best Kidney Potatoes they had tasted this year. I consider it superior to both the Gloucester Kidney and Rivers's Royal Ashleaf, for while it is quite their equal in flavour, it is, when boiled carefully, drier and more mealy. It also gives an excellent crop, free from all taint of disease." With regard to Lord Raglan Potato, Mr. Marsden writes:—"It is decidedly one of the very best Potatoes known as a second-early, or in succession to a second-early. We had a dish of this on Monday, and it was in fine condition and very mealy. It is seldom or never affected by the disease, and is as good as the Lapstone, and as it puts up but a short top, it may be grown somewhat closer in the rows than many other sorts."

A batch of young Pear trees here, all on the Quince stock and several double-grafted, some of which are dwarf bushes and others are against the walls, are all doing well, and producing good crops, especially *Beurré Giffard*, a very early Pear; *Beurré Superfin*, *Beurré Hardy*, *Passe Colmar*, *Baronne de Mallo*, *Joséphine de Malines*, *Glou Morceau*, *Marie Louise*, *Beurré Diel*, and *Beurré de Caen*. Cox's Orange Pippin Apple on a wall was very fine.

Gargrave is not in the best gardening district of Yorkshire, but Mr. Marsden's garden is always worth a visit, and he is a good hardy-fruit grower. His Pear trees were in perfect health. The soil is not the best, but the secret of success lies in good and careful management.—W. DEAN, *Shipley, Yorkshire.*

MILDEWED GRAPES.

I SEE that you have many applications respecting mildew on Grapes, and that you invariably recommend the berries to be dipped in sulphur. Having had some experience of the disease, and also of a remedy which I have found effectual several times, I now send you a few hints, which, if followed out, I think will give satisfaction. At the situation I was in eight or nine years ago, the mildew attacked the Vines in the greenhouse so severely that I did not cut a bunch, though a good crop; and my then employers would not have the berries sulphured, as they said they could taste it.

The next season the mildew made its appearance in the hot-house adjoining, and as soon as I saw it, just about the time of

stoning, I cleared the house of all plants, shutting it up early, say from two to half-past two o'clock, p.m., the thermometer sometimes rising to 90°, and not at any time during the disease did I let it fall below 70°. Then I flooded every part of the house with water, but not the Grapes, putting on a brisk fire, by four or five o'clock. I then placed from one to two dozen flower-pans on the flue, covering the bottom of them a quarter of an inch thick with sulphur, and putting in enough water to cover the sulphur; when this had evaporated, I poured in some more water, and I followed this treatment till I saw the mildew turn to a brown, then black colour. One precaution needed is, to be sure to give air early in the morning, say by 7 a.m. This treatment I found to stop the progress of the mildew in a few days.—H. R.

RUBBISH-HEAPS.

I HAVE generally two or three rubbish-heaps which I treat differently, and much future labour as respects weeds, &c. would be avoided were they always kept distinct by the workmen. The first or regular rubbish-heap, the never-failing help to the kitchen garden and the rougher flower-borders, consists of the remains of all vegetables and plants that are useless for other purposes, balls of temporary plants that are of no more use, weeds that are seeding, and, from the lawn, short grass that is not needed for heating-purposes or mixing with litter. By this time of the year there are generally two such heaps, and much of their future utility depends on the mixing of their constituents, and when, as in the case of much green grass being added, there is considerable heating, on the covering all over with a coating of the most earthy part to keep as much as possible all gases from escaping. This can scarcely be done in the additions that are made day by day, as there will be baskets of this, and barrow-loads of that thrown down in the easiest emptying place. If these heaps are near the working-sheds, all work connected with them may well be done between the showers in such uncertain weather as that which we have lately had. One such heap has, therefore, been finished; a good lot of grass in a heating state had been mixed with vegetables, weeds, earth, &c., at different times, and now all such grass available has been added, and the heap has been covered over with the earthiest matter at command. Inside, the mass is fermenting strongly, and little or no gases are escaping, and when cut down in winter, such a heap will only be inferior to the best half-decomposed farmyard manure.

My second kind of rubbish-heap is one that undergoes the fiery process. It consists of prunings, that either from their spines and thorns cannot be handled, or are so small and leafy as to be unfit for furnace-lighting, as cuttings of Ivy, Periwinkles, and all sorts of root weeds, and seed weeds, such as the White Convolvulus and the Sowthistle, which would not do to be taken to the above rot-heap, as the roots would just be in the best position for extending themselves throughout the mass; and if Chickweed, Groundsel, Thistle, &c., had the flower-buds formed and opened, there would often be moisture enough in the stems, and heat enough in the heap, to perfect and scatter the seeds, and not enough to destroy them, consequently up they would come again when taken out to the garden and placed near enough the surface for sun and air to act upon them. In such cases the useless spray comes in well for a fire, on which a great heap of such half-rotting weeds is piled; and when fairly heated, and the heat kept in with old-used earth mixed with the weeds and rubbish of prunings, a large heap of burnt earth and ashes is obtained, and such, for surface-dressings and keeping vermin at bay, is little inferior to lime. The smouldering of the heap when fairly started tends to char instead of quite burning up much of the vegetable matter. The fire is the best means for reducing all such rubbish into little space, and securing from deleterious materials a good dressing for any, and especially strong loamy and clayey ground.

A third heap, but scarcely a rubbish-heap, consists of larger prunings more free from leaves, dried Hollyhock stems, Pea-stakes, too rotten for further use, and for lighting furnaces, for which purpose they are inferior to fresh dry faggots—in fact anything wooden, from small twigs to shoots as thick as the thumb or wrist. These, firmly packed together, may be charred. One of the easiest modes of doing this is to cover the outside with a few inches of large weeds, tree leaves, or even long grass, or anything of that kind, and then cover this over with the commonest refuse earth. The rough inside covering prevents the earth falling through into the charring

mass, and will be more easily obtained in a garden than a covering of turf, which is next to essential to charring large lumps of wood for kitchen purposes. To char this twiggy rubbish much the same process must be gone through as for charring wood for stove purposes. The charring can only take place when enough of air is admitted to keep up a smouldering combustion without flame. For this purpose, light where you will, the fire will take hold at the top of the heap; and when it has taken good hold, it must be securely banked up with earth there to prevent flame issuing forth, and a few holes farther down in the heap must be made to let a little air in to keep up the smouldering combustion. As the matter there becomes charred the upper holes are shut up, and others made lower down until you reach the bottom, and the whole is charred, smoke and vapour issuing freely from these holes; but if ever as much air is admitted as to cause the materials to flare and flame, then the charring is exchanged for burning, and instead of valuable charred material you will have a much less bulky and much less valuable material in the shape of ashes. When charring, therefore, is attempted, the heap must not be long left from the time of lighting the fire to that of removing the charcoal. A slight neglect—the opening of a rent or vent in the covering, so as to create flame inside—will soon, as respects charring, render all the labour abortive. When I practised much of this sort of rubbish-charring, the earth and weeds used in covering were afterwards burned up in the weed-heap.

By these three modes almost everything cast out from a garden can be made the most of for useful purposes.—R. FISH.

THE PHILOSOPHY OF PRUNING.

PRUNING is one of the most important operations to be applied to plants, especially to woody plants. Pruning in some sort has to be performed at all periods of their existence and growth; and upon all, from the lordly forest tree, or the fruit-bearing orchard, of whatever kind, to the humble bushes and brambles that yield us their abundant and most welcome fruits, or the trailing Vine that adorns our arbours, and covers our trellises with its rich and tempting clusters of luscious Grapes. Many herbaceous plants are also submitted to judicious pruning, and yield in consequence an increased product of fruit. Our ornamental gardeners and plant-growers practise pruning most admirably upon their house plants, and by their successful methods of pursuing the practice they produce the most wonderful effects in the vigour, thrift, symmetry, and blossoming of their specimens. Yet, when we come to travel about the country, and see the shrubberies, the parks, the orchards, fruit gardens and vineyards, as they are, we shall be struck with the great amount of ignorance or neglect which is manifested in what we everywhere behold! Still more shall we be surprised when we hear nurserymen and orchardists, men who have had opportunities for extended observations, and those too, who are considered successful cultivators, advocate the idea that trees should not be pruned at all. An apology may be found for them in the many instances of bad pruning that may frequently be met with—they may say that no pruning is better than such mutilation—and with some varieties they may have a share of reason on their side, since there are many sorts that will very naturally produce an open head, everywhere provided with abundant fruit-spurs, those great desiderata of the fruit-grower.

We prune our plants for the most opposite purposes. We prune to make them assume some desired form, we prune to produce symmetry, we prune to torture them as much as possible from their natural habit. Again, we prune to make them grow vigorously, at one time, and we perform other pruning operations in order to dwarf and stunt our specimens, and to make them as diminutive as possible. The experienced orchardist will tell you to prune the barren but thrifty tree in order to make it productive of fruits, and he may also tell you to prune one still more severely, which has expended all its energies in fruit-bearing, and appears likely to exhaust itself to its own destruction. Upon very high authority, supported by universal and annual practice, the Vine-dresser will advise you to prune your Vine in order to make it fruitful, and he will also urge you to prune in such a manner as to prevent over-production—he will further insist that you shall prune again during the season of growth to promote the same objects.

Thus it appears that the ends to be attained by pursuing the practice of this important operation are exceedingly diverse and apparently contradictory; nor is it any wonder that the novice

should feel bewildered in the midst of directions so opposite, nor even that those who have grown grey in the orchard should have arrived at conclusions so strange as those just mentioned—not to prune at all. And yet, notwithstanding these apparent contradictions, there is a reason for each of these various modes, as well as for the different seasons that have been recommended for performing the several operations of pruning.

It may be said that in the natural trees, whether standing alone in the midst of a prairie, thinly grouped as in the "Oak-opening," or crowded together in the dense forest, we may behold the most perfect models of beauty and of fruitfulness; yet these have never been subjected to the action of the knife, the saw, nor the hatchet—true, and yet they have all been pruned by Nature; she prunes and trains magnificently, and gives us the finest models for imitation. Whether for park scenery, as in the lone tree of the prairie, or in the scattered groups of the island-groves, that are so often seen to rise above the level of the broad savannas of the West—or for a forest of noble shafts, to be gazed at with admiration, then felled by the ruthless axe, and converted to man's economic uses—she shows us a pattern in the dense pineries and other timber tracts of our country. All these have been pruned into their present condition by the hand of Nature. In the single specimen, free access of air and light have enabled it to assume its full proportions, developing itself on every side, and giving us the grand, majestic, and beautiful object we behold with so much pleasure. The winds have tossed its branches and shaken its sturdy boughs—some have been broken in the rude embrace, the lower ones have quietly and gradually yielded to the smothering influence of those above them, which, in turn, have swept downwards their depending branchlets towards the green turf beneath. In the groves, the scattered trees have for a while enjoyed the same opportunities for development, but at length their branches have met together and interlocked in friendly embrace. Those that were nearest the ground had already begun to suffer from the effects of the denser canopy above them, but the great sturdy boughs that had shot upward so as to form a part of the crown, these are able to maintain their vantage ground, and continue to be important members of the trees. In these illustrations we have seen more of Nature's training than of her pruning; but it must be remembered that training is one of the objects, and indeed a leading element of pruning, and is very properly a matter for our consideration.

In the dense primeval forest we see Nature's pruning exhibited upon a grand and perfect scale; tall, straight and noble trunks rise majestically on every hand; not a twig nor limb appears to break the symmetry of the gradually tapering shafts, that are clothed in bark which does not indicate that they had ever been furnished with branches; yet they have been so provided from their bases to their summits, and Nature has so neatly removed them that we cannot detect the marks of her pruning-saw. How this has been effected may be seen in any dense thicket of forest growth. It is simply a smothering of the lower branches by those next above them, which has destroyed their vitality, and their decay has soon followed; while a new growth of branches at a higher point, in turn performs the same office of destruction upon those next below them. As there is no outlet for the wood-growth but in an upward direction, so upwards they must needs go, and as there is no light nor air for lateral branches under such a canopy of shade, death and decay ensue, and down these must needs come.

If it be asked why we must prune, it may be answered, in general terms, that in the orchard our objects in performing this operation are twofold. 1st, We prune for shape and comeliness, and for the removal of dead and dying branches, in aid of Nature, but working in sympathy with her. 2nd, We prune for the sake of inducing fruitfulness. Let us consider some of the principles that are to guide us in these operations.

The first object, that of producing the desired shape of the future tree, is chiefly done upon the young subject—even in the nursery row. The judicious pruner, being well aware of the upward tendency of young growth, and that this is increased by the crowded condition of the tree in the nursery square, seeks to overcome the evil by proper pruning. If the growth be altogether upward, with no side branches the first season, the stem will be slender, often so much so as to bend with its own weight. The wise nurseryman carefully avoids disturbing the leaves or the lateral branches, well knowing their importance in forming the woody trunk. At the proper season he trims his trees down instead of trimming them up; this he does by heading them back to the height at which he desires them to form their branches; at the same time he shortens in the

laterals, his object being, in both instances, to check the upward tendency of growth by removing the strong terminal buds which would naturally have formed the new shoots in the coming season. The result of this treatment is to call into action several buds at the upper part of the stock. These are to form the arms of the tree, and hence a very important part of the pruning and training of the plant is thus performed at once by this heading back of the young nursery tree. But further attention is needed as these arms develop themselves during the next season of growth; they should not be too numerous, nor too much crowded together; they should not be too nearly matched in strength; and a single one among them, centrally situated, should be kept as a leader, which should be stronger than the rest. Never allow two shoots to remain, contending for the mastery, but subordinate one of them by cutting, breaking, or twisting, so soon as it is observed, for, how beautifully developed soever such a tree may appear when well balanced, there is always danger of its splitting down when heavily laden with fruit. This very common error of our orchards used to be quaintly illustrated by a dear old friend on the prairies of Illinois, who cited the advice of a Scotch jockey to whom he had applied for counsel in the purchase of a piece of horse-flesh. "Ne'er buy a horse whose two fore legs coom oot fra ane hole," said he; and my friend Mr. Stewart applied the same rule to his young fruit trees by never allowing them to form two equal leaders starting from one point. It is also important to have the lateral branches regularly distributed on different sides. The height at which the heading-back should be done will depend very much upon the object of the cultivator, and whether he desires to produce a high or a low head—a standard, half-standard, or a dwarf or a conical tree, such as are often called pyramids. He will study the wants of his customers, and will flatter their fancies in this matter; but we of the West have learned the importance, for us at least, of trimming our trees down and not trimming them up, as is often done by those who anticipate ploughing and planting crops under the shade of their orchards. We prefer low heads, and often train them so that the branches reach the ground when laden with foliage and fruit. The proper point for bringing out the branches and forming the head will very much depend, however, upon the habit of the variety, whether it be drooping, spreading or upright—the former will require the branches to be started at a higher point.

The proper season for performing this kind of pruning is in the early spring, after the severe frosts of winter have been passed; and, with some kinds of orchard trees, at the time of planting, when they should always receive a severe pruning and a reduction of their limbs, somewhat in proportion to the shortening of their roots.—DR. JOHN A. WARDER, Cincinnati (in *American Gardener's Monthly*).

(To be continued.)

WILD GERANIUMS.

MR. ROBSON having called the attention of gardeners to our wild Geraniums, let me give my experience, not as a hybridiser, but as one who has tried to improve and cultivate them as common border flowers.

One bright summer morning, walking with a now-departed friend from Skipton to Barden Tower for a stroll down the banks of the lovely but impetuous river Wharfe, I saw growing on the margin of a bog a plant of *Geranium pratense* (Blue Meadow Crane's-bill), with flowers of a deeper and brighter blue than any of the thousands of flowers which I have seen since that time. Not wishing to burden myself with the plant, a very large one, I gathered some seed, from which I raised plants. When they flowered the flowers were not equal to the parent, but of a lighter colour. Since then I have raised many seedling plants, but have not obtained one to enable me to say that it might be used as a bedding plant, as suggested by Mr. Robson.

Geranium sylvaticum I have grown many years, but have not produced anything better by cultivation. With me—and I find that wild plants do the same—it flowers three weeks earlier than *G. pratense*. I have not tried to cross the two, as I fear that the bright blue colour of *pratense* would be wanting.

This year I have examined thousands of wild plants of *G. sanguineum*, but have not been able to find a better variety than the one I have grown for several years. I have two or three to try them, but I fear I have nothing better than my old stock. I have never found *G. phaeum* growing wild, and I have not seen it growing for several years past.

I have often thought that something useful to gardeners might be made out of our wild Geraniums, and I think so yet; let others try, they may succeed better than—RUSTIC ROBIN.

I AM obliged to Mr. Laxton for replying to my suggestion as to trying to hybridise Geranium pratense with the garden varieties. I yet hope, however, that something may be made of this British species; the colour is tempting, and one which we want to infuse into our bedding varieties. I have not seen the wild species for several years, but it is plentiful enough in some moist districts. *G. Robertianum* has but little to recommend it, and cannot well add any qualification to existing kinds; but other species, as *G. sylvaticum* and *pratense*, may, perhaps, be still worth trial, for although they may at first refuse to hybridise with the cultivated kinds, it is possible that improved varieties of them may do so, or, which is equally important, they may without hybridisation become useful garden ornaments.—J. ROXBOROUGH.

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 2ND.

FLORAL COMMITTEE.—With the exception of Messrs. Veitch's collection of plants, and that of Messrs. E. G. Henderson, there was very little of interest at this meeting. T. R. Tufnell, Esq., of Spring Grove, sent a plant of *Brassavola grandiflora*, an old and well-known Orchid; Mr. Tillery, six seedling *Gladioli*, of which *Attraction*, a pale buff, was the only one that was noticed, and that was not equal to others of the same shade of colour. Mr. Stevens, gardener to F. E. Williams, Esq., Malvern Hall, also sent two seedling *Gladioli*, one named *Miss Wigley*, a dark rosy purple, but deficient in form, and *Annie*, scarlet, with a pale lemon centre. Mr. Sherratt, gardener to James Bateman, Esq., Knyperley, exhibited a superb new Orchid, called *Cattleya Dowiana*, having two large flowers with pale yellow sepals and petals, and a large, veined, claret-coloured lip. This was the flower of the meeting, and a first-class certificate was awarded to it; Mr. Sherratt also brought *Aërides dasypogon*. Mr. George Bailey, Rugby, sent four seedling *Zonale Pelargoniums*—viz., *Queen of Beauties*; *Washington*, scarlet; *Orange Perfection*, hybrid *Nosegay*; and *Salmon King*. The last, a deep-shaded salmon, received a second-class certificate. *Verbena Tom Brown*, rosy purple, with a large white centre, but not in condition, was also shown by the same exhibitor. Mr. Harrison, gardener to F. Wright, Esq., Derby, sent a cut specimen of *Callicarpa purpurea*, an old plant, remarkable for its clusters of small light purple berries at the footstalk of each leaf. Messrs. E. G. Henderson, Wellington Road, exhibited a collection of *Tricolor Pelargoniums*, to show the manner in which many of them produce their first coloured zones; among them was *Edwina Fitzpatrick*, inferior to Mrs. Pollock. From the same firm came also some cut specimens of *Pompone Dahlias*, a striped *Phlox*, like *Raditaky*, but with a scarlet shade of colour in the stripes, some purple *Crocus*, &c. Mr. Rawlings again exhibited his dark *Dahlia John Sladden*, which maintains its good character. Mr. Bull exhibited *Lobelia Ruby*, a soft shade of colour, very pleasing; it received a first-class certificate; also a *Cypripedium* not often seen. Mr. J. Carr, gardener to P. L. Hinds, Esq., sent *Gymnogramma Wetenhalliana*, a white-powdered Fern, which received a first-class certificate in 1860. Messrs. Francis, Hertford, brought a seedling variety of *Jasminum officinale*, with deep golden variegation, which marked the wood as well as foliage. It seems to have been known for many years, and very handsome it is, and not often seen. Mr. Green, gardener to W. Wilson Saunders, Esq., exhibited a collection of very curious plants, more interesting to the scientific botanist than the public generally; a special certificate was awarded. Mr. Frogget, Holloway, had a seedling *Gazania*, with a white margin to the foliage; the plant was not in bloom, nor did there appear to be any improvement on the old species. Mr. Williams, of the Crystal Palace, sent four seedling *Pelargoniums*, *zonale hybrids*—viz., *Pink Gem*, *Lady Belper*, *Crystal Palace Surprise*, and *Wonderful*. *Surprise* seemed to be the most promising; they were all cerise-coloured in varied shades. Messrs. Veitch sent a fine collection of plants, consisting of a group of *Cattleyas* and other Orchids, a fine specimen of *Lapageria rosea*, *Adiantum Farleyense*, &c., for which a special certificate was awarded.

FRUIT COMMITTEE.—Mr. Carr, gardener to P. L. Hinds, Esq., Byfleet, sent fruit of the *Papaw* (*Carica papaya*), *Granadilla* (*Passiflora quadrangularis*), and of another *Passiflora*, the name of which could not be determined. The fruit of this was about the size of a small Lemon, egg-shaped, and of a clear apricot colour, but the flavour was inferior to that of the *Granadilla*. The only other fruit shown was a small collection of Pears, from the Society's garden at Chiswick, among which were *Suffolk Thorn* and *Gansel's Bergamot*, two varieties very similar in flavour; *Hepworth*, or *Walbeck Bergamot*, which although usually of a very inferior quality, proved tolerably good; *Retour de Rome*, good; *Délécies de Jodoigne*, *Colmar de Maestre*, *Mignonne d'Hiver*, and *Beurré Köning*. Messrs. Outbush, of Highgate, again exhibited large specimens of the *Nuneham Park Onion*; and Mr. Whiting, of the *Deerpene*, Dorking, remarkably fine

examples of the *White Spanish*, which were larger than those shown under the name of *Nuneham Park Onion*, but so strikingly similar in all other respects, as to confirm the Committee in the decision at which they had previously arrived as to the identity of the two varieties. Mr. Drewitt, gardener to Mrs. Cubitt, the Denbies, Dorking, and Mr. Scrymger, gardener to R. Palmer, Esq., Holme Park, Reading, likewise exhibited the *Nuneham Park Onion*, and from the latter came also the *Reading*, which, though considered to be the same as, or but little different from, the *White Spanish*, is said to keep better. From the garden at Chiswick there was likewise a small collection of Onions; and from Mr. R. Dean, Ealing, came some of the finest examples of the *Danvers Onion* which we have seen. Messrs. Veitch contributed large and finely-blanced examples of *Endive*, consisting of the *White Curled*, *Moss Curled*, *Green Curled*, and the *Digswell Prize*, very similar to the last; also, the *Broad-leaved Batavian*, and *Fraser's Improved Broad-leaved*. Messrs. Stuart & Mein, Kelso, sent bottles of the pickled pods of the *Rat-tailed* and *Madras Radish*, and the Committee considered that the latter had the better appearance of the two.

FORTNIGHTLY MEETING.—G. F. Wilson, Esq., F.R.S., in the chair. After the election of two Fellows the Rev. Joshua Dix, Chairman of the Floral Committee, reported the awards of that body, and in the absence of the Rev. M. J. Berkeley pointed out some of the more remarkable subjects exhibited, and among others the variegated *Jasminum* from Messrs. Francis, of Hertford (noticed at page 266); this, it was stated, would have received an award had the Committee been certain that it was new, but some of its members believed they had seen it years ago.

Mr. Wooster said that he had seen the same *Jasminum*, or one very like it, twenty years ago in the garden of Mr. London, at Baywater. It had been budded on the common *Jasminum*, but although the bud did not take, the variegation remained in the stock—a result which he ascribed to the inoculation of the sap. He had also seen the same variegation three or four years ago in a plant at Naworth Castle, the seat of the Earl of Carlisle.

Mr. Wilson having made a few remarks on the subjects before the Fruit Committee, the proceedings closed.

WEEKLY SHOW, October 6th.—For a collection of six miscellaneous plants a first prize was awarded to Mr. Young, gardener to R. Barclay, Esq., Highgate; and Mr. Bartlett, Hammersmith, had a second prize for a well-grown collection of Ferns. Collections of fruit came from Mr. Young and Mr. Marcham, gardener to E. Oates, Esq., Hanwell, to the former of whom a first prize was awarded; and Mr. Young also sent a collection of Apples and Pears. Mr. J. Perkins, gardener to Lord Henniker, Thornham Hall, Eye, had also a prize for a good Hybrid *Cashmere Melon*.

ENTOMOLOGICAL SOCIETY'S MEETING.

THE September meeting of this Society was held on the 3rd ult., the chair being taken by Sir John Lubbock, F.R.S., President, to whom a special vote of thanks was passed in acknowledgment of the hospitable reception given to the members of the Society at his residence, High Elms, Kent, on the 11th of August. Among the donations to the Society's library received since the last meeting were the publications of the Zoological Society of London, the Royal Academy of Brussels, the Lyceum of New York, and the Society of Natural History of Boston, U.S. Several valuable works purchased by the Society, were also upon the table.

Mr. F. Bond exhibited some very fine specimens of the new Silk Moth (*Bombyx Cynthia*), varying greatly in size, reared by Mr. Wallace. The largest males hitherto obtained measure 6½ inches in expanse, and the smallest about 3 inches.

A letter from Dr. Wallace on the unfavourable results produced by the long-continued inclement weather on his *Ailanthus* caterpillars was read.

Mr. S. Stevens stated that he had recently visited Lady Dorothy Nevill's *Ailanthus* farm, where several acres are occupied in the growth of this tree, and the rearing of the Silkworms thereon. Birds were rarely found to attack the caterpillars, but it was necessary to employ a man or boy to pick up and replace them when dislodged by the wind.

Professor Westwood stated that some of his caterpillars in a very young state had been carried off by Wasps. He also stated, as showing the instinct of the species, in favour of the *Ailanthus*, that a lady at Oxford, who had reared some of the Moths in confinement, of which a pair had escaped out of the house, had subsequently found them upon the only *Ailanthus* tree in her garden.

Mr. Bond stated that the female Moth possessed the power of "assembling" the males, which is possessed by some other species of Bombycidae.

Mr. Pascoe directed attention to an account given by Mr. Consul Meadows, of a Chinese Silkworm, the pupa of which is eaten as an article of food; and Professor Brayley communicated an extract from a report by Mr. Vice-Consul Lay, on the trade of Chee Foo, North China, in which it is stated that 12,000 bales of brown silk produced by the wild Silkworms in the mountain forests of that district could

be annually supplied, and that the natives weave plain silk goods from it, called "pongees," of which about 100,000 pieces could be bought annually.

Mr. Stainton having exhibited, on behalf of Mr. Diamond, House Flies infested with six and even eight specimens of *Chelifer caneroides*, an inquiry was made by Mr. Stainton as to the object of this often-observed kind of parasitism.

Mr. Stevens also exhibited a sheet containing figures of all the British species of Butterflies, beautifully executed by Mr. Mitchell.

Mr. Stainton exhibited two species of *Gelechia*; *G. vicinella*, reared by Mr. Gregson, from larvae which feed upon *Silene maritima*, in the Isle of Man; and *G. atrella*, bred by Mr. Jeffrey from larvae feeding on the pith in burrows in the lower parts of the stems of *Hypericum*, at Saffron Walden, causing the upper shoots of the plant to droop. Mr. Stainton also exhibited a series of small Moths received from M. Millière, of Lyons, including specimens of the long-lost *Depressaria rutana*, which feeds on Rue, and a new species of *Gelechia*, allied to *G. costella*, bred from *Hyoecyamus albus* at Cannes.

Mr. Augustus Sheppard exhibited a variety of rare Lepidoptera collected in the Isle of Man by Mr. Gregson, including a new species of *Gelechia* and a new *Phycis* allied to *P. dilutella*.

Mr. Lanson exhibited a small collection of Coleoptera and Hemiptera taken near George Town, Jamaica, by Mr. Gloyne.

Mr. Haines sent for exhibition a curious variety of *Melanippe fluctuata* found at Brierley Hill, Staffordshire.

The Secretary exhibited drawings of the transformations of a new Geometridæan Moth communicated by Mr. Schrader, of Shanghai, found on *Salix pentandra*; the larva resembles the remains of a leaf of which the soft parts have been eaten away.

Mr. McLachlan corrected the nomenclature of one of his new genera of Trichoptera.

A note was read by the Secretary on the ravages in the Cotton fields of Louisiana, produced by the immense swarms of caterpillars of the *Heliothis armigera*, commonly called the Army Worn.

Mr. Moore read an extract from the "Journal of the Asiatic Society of Bengal, for 1886," respecting the rhythmical emission of light by large swarms of Fire Flies. Mr. Grote had never witnessed this phenomenon in Bengal, but Mr. Theobald distinctly states that he had noticed the synchronous emission of the luminosity by great quantities of these insects in Pegu, which was also corroborated by Mr. Montgomery, of the Survey department.

A continuation of Mr. Wilson's notes on the Buprestidae of New Holland was also read.

Mr. Pascoe read the description of a new Longicorn Beetle from Queensland, New Holland, allied to the genus *Timenesternus*, and made some observations on the geographical distribution of this remarkable group.

Mr. Frederick Smith read "Notes on some Hymenopterous insects collected by Mr. Peckolt at Cantagallo, South Brazil." Amongst these insects was described for the first time the genuine female or queen of the common South American Honey Bee belonging to the genus *Trigona*. The collection also contained the interesting *Dialocerus Ellisi* of Curtis, a Saw Fly which is social in all its stages, and an Ant of the genus *Cryptocerus*, which is destructive to the nests of the *Trigona*.

Mr. Robert Trimen (the completion of whose work on the Butterflies of South Africa was upon the table), communicated a memoir on the Butterflies of the Island of Mauritius.

The President announced that there would be no further meetings of the Society at the rooms in Bedford Row, but that the future meetings would, by permission, be held in the rooms of the Linnean Society in Burlington House, Piccadilly, commencing on the 5th of November next. There would be two meetings in November, January, February, and March, but only one, as heretofore, in December, April, May, June, and July, the meetings in August, September, and October being intended to be discontinued. The library of the Society would, however, remain at Bedford Row, where the librarian would attend on Mondays as heretofore.

PINCHING FIG TREE SHOOTS.

In page 204 you recommend the pinching of Fig tree shoots before they have made any leaves. Allow me to ask whether you pinch the shoot so as to destroy it, and trust to embryo wood-buds breaking lower down, or whether you only wound it so as to prevent its breaking vigorously. I presume that Figs, like Peaches, are all the better of leaves beyond them, and that the plan of pinching the terminal shoots before they have made leaves is suitable to out-door cultivation only, since under glass, where a second crop is expected, the sooner the leaves are formed the better, as it is in their axils that the second crop is produced.—G. S.

[When at page 204 we spoke of pinching the end of the shoot, not terminal shoot, before it had made its leaves, it was chiefly in reference to out-door trees; but the system is also applicable to in-door trees, where constant-pinching is not resorted to. In the spring, if you look at such a shoot as we referred to, some very small Figs will be showing at the joints,

and the terminal bud, which would lengthen into a shoot, will be more prominent than any other. This bud we pinch hard, or even cut it in two, but do not remove it. The shoot thus caused throws the sap back towards the young fruit; and from the pinched bud, instead of one shoot, you will generally have several, and these can be thinned out to one or two, and be strong enough for all purposes.]

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

CELOGYNE CORRUGATA (Wrinkled-bulbed *Celogyne*).—*Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria. Native of Neilgherries. Flowers white, with yellow lip striped with orange.—(*Bot. Mag.*, t. 5601.)

COTYLEDON FASCIOLARIS (Glaucescous-blue *Cotyledon*).—*Nat. ord.*, Crassulaceæ. *Linn.*, Decandria Monogynia. Native of South Africa. Tube of flowers yellow green, lobes green with red margins.—(*Ibid.*, t. 5602.)

GLYPTOSTROBUS PENDULUS (Pendulous Deciduous Cypress).—*Nat. ord.*, Coniferae. *Linn.*, Monœcia Polyandria. Native of China. Has been confounded with *Taxodium distichum*.—(*Ibid.*, t. 5603.)

HELIPTERUM COTULA (Cotula-flowered Everlasting).—*Nat. ord.*, Compositæ. *Linn.*, Syngenesia superflua. Native of Western Australia. Introduced by Mr. Thompson, Ipswich. Flowers, some golden-coloured and others white.—(*Ibid.*, t. 5604.)

BOLBOPHYLLUM RETICULATUM (Netted-leaved *Bolbophyllum*).—*Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria. Introduced from Borneo by Messrs. Veitch. Leaves beautifully reticulated. Flowers white striped with reddish purple.—(*Ibid.*, t. 5605.)

MUSCHIA WOLLASTONI (Mr. Wollaston's *Muschia*).—*Nat. ord.*, Campanulaceæ. *Linn.*, Pentandria Monogynia. Native of Madeira. Flowers yellowish green.—(*Ibid.*, t. 5606.)

DIPLADENIA AMABILIS.—(*Floral Mag.*, pl. 309.)

CLEMATIS.—*Rubella* (purple), and *Lanuginosa candida* (white). Raised by Mr. Jackson, of Woking.—(*Ibid.*, pl. 310-11.)

ROSS.—*Mrs. John Berners*. This Hybrid Perpetual has very compact, deep rose-coloured flowers.—(*Ibid.*, pl. 312.)

DIPLADENIA AMABILIS.—"The gorgeous stove climber was raised by Mr. Henry Tuke, gardener to R. Nicholls, Esq., of Bramley, near Leeds. A very fine specimen which was exhibited by Mr. Tuke at the Bradford August Show last year attracted a good deal of attention, and during the present year Messrs. Backhouse & Son, of York, into whose hands the stock has passed, and Messrs. Veitch & Sons, of Chelsea, have exhibited it in good condition at South Kensington, where it was rewarded by a first-class certificate.

"It is with great pleasure that we publish a figure of so admirable a decorative plant, and one, too, which evinces the skill of the hybridiser, for *D. amabilis* is a hybrid production. It was obtained by Mr. Tuke as the result of a cross between *D. crassinoda* and *D. splendens*. The plant partakes somewhat of the habit of *D. crassinoda*, but it is of stronger growth, with larger foliage. The blossoms open of a pale bluish pink, and gradually change to rose, until they finally attain to a richer and deeper hue than that of *D. crassinoda*. The lobes of the corolla are more rounded in form than in that plant, and the flowers, as will be seen from our illustration, are not only of large size, but of a very showy character; they are, moreover, very freely produced.

"The cultivators of stove climbers are under deep obligations to Mr. Tuke for having originated so showy and free-blooming a plant, which is without doubt a decided acquisition, even in a family of which the species almost without exception occupy a front rank amongst the choicest ornaments of our stoves. It will require treatment similar to that given to the species already in cultivation."—(*Florist and Pomologist*, v. 209.)

SEEDING OF CUCUMBERS.

CAN any of your readers recommend the best plan of making Cucumbers seed freely? I have grown a quantity this year in a Cucumber-house with the Cucumbers hanging from the roof, and although I have an abundance of fine fruit, I have very little seed. Some which are thick-topped have more seed in them, but many long handsome fruit have none.—CUCUMBA.

VIOLA CORNUTA.

IN reply to "AN OLD SHROPSHIRE SUBSCRIBER," "T. U.," and many other correspondents who have kindly sent me specimens of *Viola cornuta* for comparison with the variety I grow (and which still maintains its high position as one of the very best bedding plants in cultivation), I beg to state that none of the specimens sent, so far as I could judge, is identical with mine. The specimen sent by "T. U." is the small-flowered and dwarf-growing variety, of which the colour is very much lighter than mine. I have placed my surplus stock in the hands of a respectable nurseryman, whose advertisement will be found in another column, and must refer the numerous correspondents of *THE JOURNAL OF HORTICULTURE* to him for plants of it, which will be distributed at a low price. For the description of its propagation and management see previous articles. Cuttings may be put in with a certainty of their growing, as long as the weather remains open. Those who have a greenhouse or propagating-house may place their plants in heat about the first week in January. Propagation may then be effected as easily as in the case of a *Lobelia*.—J. WILLS.

PARIS.

THE first thing which strikes the foreigner visiting Paris is the exquisite taste displayed in things small as well as great. No one with his eyes open can walk about Paris, or any of the large cities of France, without continually learning valuable lessons—without picking up ideas which might with advantage be carried out at home. At the entries of the cafés, in the Palais Royal, in the Rue de Rivoli, and elsewhere, the dessert is arranged in a most tempting manner. It is almost impossible to describe in words the various—the ever-varying way—in which it is so placed as to catch the eye of the passer, and to charm him with its artistic beauty. These trophies (I must use a word now naturalised among us), are often 4 or 5 feet across, mixed with the fronds of Ferns, and just enough greenery to relieve and lighten the whole; the blushing Peaches look all the more luscious from their proximity to the regal purple of the Grape; the Melon and the Pine nestle together; the brilliancy of the red-cheeked Apples is toned down by the pearly transparency of the White Currants or Grapes. Then, again, the shops of the florists are set out in an equally attractive manner; and were I in business in this line, I should have thought the money it cost me to cross the Channel well spent in the ideas to be picked up on this head alone. The same taste is shown in shops of all kinds; although very many of them are smaller than the shops of London, Edinburgh, Glasgow, or Aberdeen, yet it is almost impossible to realise the fact, for, from the enormous use made of gigantic mirrors, the apparent size of all these is increased enormously.

In 1848, most of the large trees which lined the principal streets were cut down to form barricades, and the stumps of these could be seen some three years afterwards. The few old ones left seem healthy, and the others have been replaced by young ones, which are in the best possible health. They are also planted in all the new streets which have recently been formed, or which are still in course of formation. There are Elms, Limes, Horse-Chestnuts, Maples, Acacias, and other kinds used for this purpose; and in the Place de la Madeleine I saw some fine young specimens of *Paulownia imperialis* growing most luxuriantly; but their fine large leaves were then being torn by the storms, of which we have had more than enough this autumn.

The streets of Paris are kept cleaner and in better condition than those of any city it has ever been my lot to visit; but I should not have mentioned this subject had it not a bearing on horticulture. Those who are old enough to recollect the direful tales which filled our papers, day by day, in 1848, will recall the uses to which the paving-stones of Paris were turned. We shall never read a second edition of those tales, for nearly all the paving-stones have been removed—the policy of the Government is everywhere considered. In their place, the broad and comfortable pavements have been floored with asphalt. Now, I have seen a good many paths, courtyards, &c., covered with this material in the old country; but a very large majority of these were anything but satisfactory. They must have a better way of doing it than we have. It wears well, too, even with the enormous traffic of such a city as that. I inquired how often it required to be renewed, but nobody seemed able to tell me, and that simply because they had had no experience. I was

shown some which had been down for six or seven years, in places it had occasionally been repaired; in fact they were doing it at the time, along a space which had been opened for the purpose of putting down a gas-pipe; the greater part of it, however, was the original work, and to all appearance it was as good as ever. Within the last few years a still better plan has been adopted. The roads are made with concrete, and then thinly covered with some brown powdery stuff looking like cement. This is laid dry, to the depth of about half an inch, and then patted down with hot irons. I may show my ignorance by saying so, but I must add that I never saw this plan before. The substance is not melted, but it hisses and smokes under the iron, and becomes so hard and solid that the heaviest vehicles make not the slightest impression upon it. I did not see the men at work upon it, but this is how it was described to me by one of the natives. The French call it by a term which may be translated "compressed asphalt." Now, as all the roads and footpaths are covered in this way, you might suppose the trees have but a poor time of it; their welfare, however, is studied. Around the stem of each of them there is an ornamental cast-iron grating, on a level with the footpath, made in concentric circles and segments, so that as the tree enlarges it may be accommodated by the taking away of a part of this grating, which admits air and water to the roots.

While talking about the streets, let me mention one other circumstance, from which we may gather an idea. In this country our roads are dusty, or, when the water-cart comes along, muddy, not that we as gardeners have anything to do with that either; but in France they manage it better. When the water-cart is used it damps the surface without making it muddy; but there are many parts, as near the Bois de Boulogne and in the Place de la Concorde, where the roads are kept moist by sprinkling them from a hose. And now we come to the fact which may be of service to the managers of large gardens. With the exception of the piece held by the man working it, the whole is made up of nine-feet lengths of iron tubing, like gas-pipes, and united by flexible pieces of indian-rubber hose. But how does he drag it about? you say. Why, each length is fitted with two little wheels at each end, thus keeping it up some 3 or 4 inches from the road, and enabling the man with the most perfect ease to take it in any direction; and, when he has finished, he folds them up, and runs them off to some other place. One man can thus do the work of two, for he needs no one to help him, even if using 150 feet of pipe; and all the wear and tear of dragging the hose along the road is avoided, and we all know how soon, under such circumstances, the best indian-rubber or leathern hose will wear out. This apparatus is also used for washing the trees and shrubs so plentifully seen in the streets of Paris. They do not, however, get so dirty as with us, because wood or charcoal is the common fuel used, and, therefore, less smoke is made. English coal costs two guineas a-ton, and Belgian coal is nearly as dear, so there is a cause for this. In dry weather it is necessary to water the turf in the parks, and this is done with the same kind of apparatus—certain lengths of the iron piping being drilled with innumerable small holes, a gentle shower is given, and one man can manage a lot of work, as he can attend to three or four places at once.—(*Scottish Gardener*.)

ROOM PLANTS AT ST. PETERSBURG.

WE have very little idea in England of the extent to which horticulture is practised in northern Europe, for, firstly, few of our gardeners and amateurs ("D., of Deal," for instance), ever get beyond France, and if they do, they are very chary with their news. I had the pleasure of giving your readers two sketches of St. Petersburg, as far as regards flowers, and can only say I much regret that want of time prevents my following out my plan—that of describing the Czar's gardens and ranges of houses at Tsarskoo-Selo.

What I wish to draw attention to at present is the house decoration—the arrangement of plants of various kinds—in the St. Petersburg drawing-rooms, &c.; and here it would be well to remark, that although my views have been taken from the houses of the upper classes, nevertheless, the more moderately furnished houses all boast of plants—Palms and creepers.

On entering the room you are struck by a screen, a trellis-work screen, fitted with a box and pan for creepers, on the room side of the door; and when covered with a kind of Vine much used for the purpose, or Ivy, it looks very pretty, and has for

its object, doubtless, the allowing you to take a glance at the interior and the people without being scanned. We all know with what a stare new comers in an English drawing-room are greeted, and this screen just answers the purpose of letting the in-comers see and scan, if they like, those in the drawing-room, and then quietly move in. These screens are used with great advantage in hiding any object not wanted, in filling up any blank corner, or in other ways; and as they are readily moved about may be used for several ends. For instance, a common object, and none can be prettier, in a St. Petersburg drawing-room is an alcove, or bower, formed at one of the windows by two or more of these screens, adding a roof of wire, on which the climbers are trained. I have seen these so thick that a couple might sit comfortably and chat even without being heard.

It is not my intention to specify all the plants that are used in this in-door decoration; but if it be desired, I will make it my duty to procure a list of those most commonly employed. Palms, as a matter of course, are principally worked in, the

taller ones at the back, and so on. They keep beautifully green with a little sponging, and last year after year in the hot rooms.

The spaces between the windows are invariably filled with plants—say an Ivy on each side, running up by the curtains, or green-leaved plants, chiefly of the Palm tribe, in a pea in the centre. This, backed by a strip of looking-glass, or with one or two small flowering plants in their season in front, adds to the *tout ensemble* (to borrow a useful expression), of the room in a great degree.

Your readers will readily understand from this how naturally the inhabitants of the wintry St. Petersburg (it has seven months of winter), try to make their rooms cheerful, and I am sure we are all agreed that nothing tends so much to enliven a room as plants judiciously arranged. The arrangement lies, of course, with the tenants; and in conclusion I may say that in very few instances have I seen plants badly placed in the Russian drawing-rooms. It may be that plants are never out of place.—PATELIN.

ORIGINAL FLOWER GARDEN PLAN.

My thanks are due for the criticism of the plans contained in a late communication. I have long been an advocate for greater simplicity in making and carrying out flower-garden designs, being convinced of the possibility of producing results more favourable from simple, well-planted, and, consequently, well-understood designs, than from others too generally in vogue, models though they may be of well-studied geometrical compositions. An ideal plan or design, as I take it, pleasing to all, is one the merits of which the eye can readily comprehend with pleasure. Hence the reason why we so often fail to feel a pleasure in many well-planted gardens, their designs being too complicated. In lieu, therefore, of beds consisting of figures, many of them individually wretched forms of cornered and pointed ugliness, I would advise all to give their beds the simplest, most readable outline possible. The Editors confirmed my statement, that beds looked best from an elevation; and why is this so? For the simple reason that we can more easily discern and understand the object before us—can see its nicely-adjusted outlines, as in miniature upon paper.

I foresaw the fault pointed out by the Editors—namely, no mode of ingress proper in my late plans. Yet is such really necessary? I know the eye will always readily admit of it when seen, on the score of utility, though I incline to the belief that when wanting the eye seldom requires it in designs of small magnitude upon grass. Another plan which I forward has the same fault, though as the inner grass may be mown and cleared with ease, I trust the objection is not too formidable.

This truly simple plan has a very pleasing effect; it admits of associations in colour in a form the most pleasing, whether the various colours be viewed upon a line level with the eye, or the design be seen from an elevation as a whole.

In conclusion, a word with reference to the odd number seven in my two former plans. Where beds are connected in a circular form, yet are required distinct in their bearings when planted, I have a dislike to even numbers when the whole are reducible to a minimum quantity, upon the same simple principle that a trio would be a more pleasing circlet than four. In the former number each bed may be planted upon a basis separable and distinct from the others, yet be capable of a greater harmony as

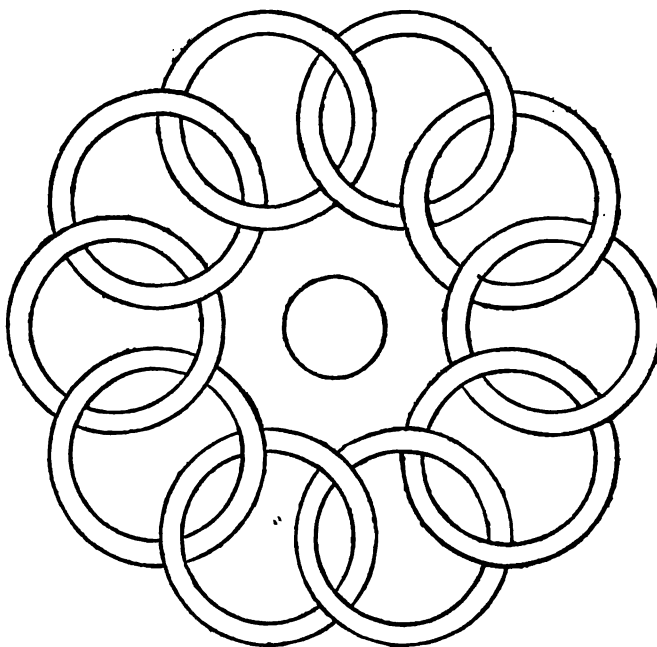
a whole, and this is because no appreciable or direct connection is necessary in its bearing with a match bed, which it has not. Hence, then, I push my odd numbers to as great a limit as

possible consistent with the size of my plan and the materials in hand for the formation of so many distinct beds, supposing that each, whilst planted in harmony and proper contrast with others throughout, is in itself an odd bed.—Wm. EARLEY, *Digswell*.

[This third plan, though looking very nice and a credit to the designer, we do not consider equal by any means to that engraved at page 222, and chiefly because it is so much more complicated and less easily worked. Like the other two, this consists of a circular group on grass, in the centre a small circle, which, perhaps, would be better if absent, or, if present, merely as a plinth for a tazza or vase, and then ten large circles forming the chain all round, each of these circles in its outer circumference cutting the diameter of the circle next to it at about a third of its width. An inner circum-

ference leaves a narrow border all round the circles, which is all that is intended to be planted, making thus a small pointed oval on the side of each circle, or rather two, as they first strike the eye, and a large open space somewhat heart-shaped in the centre of each, the oval and this larger space being intended for grass. The beauty of the plan consists in the circumferences of each circle being of a distinct colour, and the fine blending that will take place by each of these circles being crossed by two others having complementary or contrasting colours.

Our objections are much the same as stated formerly—the necessity, in the management, of stepping or jumping over the beds to reach the central piece of grass, and the next to knee-and-scissor work that would be required to get at the grass of the small ovals, unless the plan were on a large scale, and then there would be wading through the borders of at least two circles to reach them. Then, if the plan is on a small scale—say, if these borders at the circumference of the circles are from 12 to even 24 inches in width, low plants would require to be used, and these would be apt to be lost amid so much green grass around them. Of course, if the colours are clear and distinct, even a circular border of 15 inches will often be



effective. Our candid opinion is, that if there are not many who would make such a circular flower garden, there will be many who will take a hint from this design of Mr. Earley for making a chain border. We can fancy such a border, straight or curved, without any grass, gravel, or Box, except at the outside, and all one mass of contrasted colour, and of uniform height, looking exceedingly well. Even a nice balancing as to proportion and size could easily be obtained by making the circumference of one circle go farther into its next neighbour, and thus reduce the present centre, and enlarge each oval. The great advantage of such a composition border would be that its character and design could be changed every year, just as Mr. Robson changes the pattern of his large composition bed. After having seen that bed in its full beauty, we would sooner contrive to keep all the lines right with peg or string, and go about among the plants as we could, than have plots of grass in the centre of beds, involving the ideas not only of going through or jumping over the beds, but of taking donkey-loads of grass out through them by some means or other. If such is our opinion, that is no reason why many of our readers would not rather in this respect agree with Mr. Earley, and if so, we trust they will carry out their own tastes.

In all that Mr. Earley says against complicated designs for flower gardens we fully agree. There is much also in his reference to odd numbers, that "a trio would be a more pleasing circle than four;" but we think the very pleasure is greatly owing to the simple fact that it is at once seen there are a centre and two wings, or a middle and one or more on each side. Have a centre, distinct in itself, and put three circles on one side, and one on the other, and where would be the agreeable character of the chain as a whole? Here again, however, there may be much diversity of opinion; but after planting odd and even numbers so as to make a whole, we think it much easier to balance in pairs from a centre. We do not quite comprehend the "dislike to even numbers when the whole are reducible to a minimum quantity," though we can quite agree that odd numbers may each be so treated separately as to make an harmonious whole. We value Mr. Earley's plans because they break in upon the usual stereotyped arrangements for flower gardens, and we ought to be grateful for anything that stirs us up to go out of the usual beaten track.]

ROSE ALBA MUTABILIS—MELONS AND VINES.

I WAS as much surprised to find the colour of this Rose was rose colour as "D." was to find that I described it of the colour of Alba Roses, *alias* Madame Bravy. It was, at the International Horticultural Exhibition, white in its outer petals and rose-tinted within. Its name "Mutabilis" will account for its being "variable." If its native colour is rose I do not think so well of it as I did at the International. Moreover, its habit is drooping, which is not a virtue.

I thank Mr. Abbey for his various articles, and especially for his article on Melons. I have gained great and useful information on Grape-growing from Mr. Pearson's nice work. I hope Mr. Abbey will publish a work on Melon culture through the Journal office. I have made a beginning with Grapes and Melons, and have also made "some flukes." My Melons are Turner's Gem, Golden Perfection, and the old Beechwood. The first and last are excellent; the second I have not yet tasted. My Black Hamburg Grapes shrank at one time, but I stopped the evil by the good advice in Mr. Pearson's work.—W. F. RADCLIFFE, *Okeford Fitzpaine*.

NOTES AND GLEANINGS.

AFTER the meeting of the Floral and Fruit Committees of the Royal Horticultural Society on the 2nd inst., a joint Committee was formed, and the subject of the Exhibition proposed next year, to be continued for four days, was resumed. Messrs. John Veitch, Standish, Turner, Bull, Fraser, and others, made brief observations, and all approved of the suggestion, and promised their support provided a proper place for the Exhibition were prepared, and liberal prizes were offered. Although it was suggested that the prizes should be doubled, in consideration of the time the plants would be required, we should hardly think it reasonable that the premier prizes of £20 should be made £40. We are quite certain of this, that the prizes offered will be on a very liberal scale. It was satisfactory to find that no dissentient voice was heard on the subject, and we

sincerely hope the result will prove equally beneficial to the exhibitors as to the Society itself. Unanimity will secure both.

MANY of the Eupatoriums, North American, European, and tropical, have been employed as medical agents for ages, and at one time were alleged to be gifted with marvellous powers of healing. Swartz found a species, which he named *Eupatorium nervosum*, in the highest mountains of Jamaica, where it is locally known as "Bitter Bush," and was there employed, it is said, with great success as an antidote against cholera. The physicians in the island consider it a most reliable medicine in cases of typhus fever and small-pox. This and another plant from the same island are about to be tried in this country as medical agents. The other plant is *Croton humile*, which Endlicher mentions is used in the West Indies in medicating bottles for nervous weaknesses. Its sap is pungent, and pieces of the shoots are sometimes masticated to remove relaxations of the throat.

A LETTER to us remarks—"I have just passed through Daventry, and it is the first town at which I have known an 'Onion Fair.' I was told that the quantities offered for sale, though large, were not so large as last year. The prices varied from 1s. 9d. to 2s. 6d. per bushel."

THE turf used for covering the raised borders in the International Horticultural Exhibition is now to be sold, and can be had on application to Mr. Gibbon, Battersea Park. We are informed that the turf is in excellent condition.

THE annual ceremony of crowning the king of the Pumpkins at the Central Markets, Paris, took place on September 28th. The vegetable which obtained the honour this year weighed 258 lbs., and measured 10 feet 4 inches in circumference. It was grown at Gonesse (Seine et Oise).

WORK FOR THE WEEK.

KITCHEN GARDEN.

EVERY piece of ground that now becomes vacant should have the requisite quantity of manure laid on, and trenching should be proceeded with at every favourable opportunity. A strict attention to the order and general propriety of the garden at this season will have its obvious advantages. *Cabbage*, planting can be proceeded with. *Celery* will still require earthing up as it advances, and *Endive* must be tied up to blanch. There should be two separate receptacles for garden rubbish attached to every kitchen garden (and I allude to this matter at present because the accumulation of weeds and decayed vegetable matter is considerable at this season of the year), one to receive the matter convertible by gradual decomposition into manure, the other to contain every substance that can conveniently be burnt. A good reserve of burnt earth and wood ashes should exist in every garden; the latter may be advantageously substituted for manure of a stronger character in rich soils, which it is desirable to relieve. Some people pretend to discriminate between the Broccolis grown on poor soils and those cultivated in highly-manured gardens around London. It is highly probable that the flavour of the Brassica tribe may be heightened, and not improved, by rank soil, and no doubt manure is sometimes excessively and injudiciously employed in the cultivation of vegetables.

FRUIT GARDEN.

Pay every attention to promoting the ripening of the wood of Peaches and Apricots by exposure, shortening, &c. Most kinds of Apples may be gathered during the present month. Late Pears should be left on the trees while the weather continues favourable to the ripening. Prepare for planting all kinds of fruit trees by putting the ground in good order. On cold stiff soils it is advisable to plant on hillocks 1 foot or 18 inches higher than the surrounding surface. The trees will not grow so fast in consequence, and will require more attention in summer in the way of mulching, but they will form short-jointed, well-ripened wood, which is the best preventive of canker, gum, &c., and will save the labour of resorting much to root-pruning. Attend to former directions as to root-pruning, and where this is required let it be done at once. Root-pruning, however, is not of much service where the subsoil is such that the roots can strike down into it, and where such is the case it will be better to lift over-luxuriant trees, and concrete the bottom of the border, as cutting the horizontal roots, although it may check the gross habit for a season, would not induce a fruitful habit.

FLOWER GARDEN.

When evergreens are to be removed let it be done as soon as circumstances will admit, for the most favourable season for

this kind of work will soon be past. The scarcer varieties of variegated Geraniums should not be risked in beds too long, they had better be taken up, and potted immediately the weather becomes at all threatening. After potting it will be a good plan to place them on a gentle bottom heat in a pit or house where the atmosphere can be kept sufficiently dry to prevent the foliage being injured. So circumstanced they will soon become established, when they may be stored away for the winter in a cool, dry house, where they will be secure from frost. Any beds which may have become shabby, and which are to be planted with bulbs or anything else for spring decoration, should be cleared at once, and replanted. When planting beds 2 feet in diameter with bulbs, we would advise to put two rows of Crocuses round the bed, not more than 1 inch from each other, then six Hyacinths set equally over the remaining portion, filling up the vacant spaces with early Tulips. Each bed of this size will thus contain about seventy-two Crocuses, six Hyacinths, and a dozen early Tulips. The taste of each amateur can regulate the colours of the various kinds of flowers, as there is room for great diversity. The Hyacinths may be all different, or mixed, or all alike in each bed, and the Crocuses may be mixed or of one kind. If there is a number of small beds together, a good effect would be produced by having one colour in a bed, the contrast being furnished by the beds themselves. As there may be innumerable combinations of colours, each amateur can consult his own pleasure in the matter. The month of October is the most eligible time in the whole year for alterations; whether planting or general ground work they should be carried forward with vigour as soon as possible. Such matters should not be allowed to press on the ordinary business of the garden; extra work requires extra labour, and if such is not supplied a corresponding amount of injury must occur in some other department, and the blame not unfrequently falls on the gardener. Alterations carried on during the autumn are doubly important, both on account of the season for planting, turfing, and such operations, and also on account of the busy character of the spring months, which always bring sufficient claims on the most diligent without the pressure of extras of any kind. The remodelling of parterres or the making of new ones may be carried on now; and where old ones are to be broken up, the herbaceous plants already existing should be numbered or named in due time, in order to be able to ascertain the heights, colours, &c.

GREENHOUSE AND CONSERVATORY.

Hyacinths and other Dutch bulbs, if not already purchased, should be procured and potted without delay. Orange trees intended for forcing in winter, for the decoration of the conservatory, should also now be attended to. These and Daphnes are invaluable for winter blooming, and should be largely grown for that purpose; also, see to having plenty of *Salvia splendens*, which is useful for mixing amongst *Chrysanthemums*. It is a good practice to use the largest plants of *Salvias* in a shady situation out of doors for a few weeks in autumn. Plants so treated will be found to bloom more strongly and last longer in beauty than others run up in a warm house. Look carefully after the watering of large specimen hardwooded plants in pots, especially Heaths, which are soon injured by being over or under watered. Examine specimens often and carefully, and when they are found to be dry water thoroughly so as to moisten the whole of the ball; also, look sharply after mildew on softwooded Heaths, and dust the plants with sulphur directly the enemy is perceived. Let *Azaleas* be tied into form as soon as can be done, in order to give them a neat appearance. Also attend to the staking and training of other plants as leisure time can be found. Look carefully after red spider on *Bossias*, *Chorozemas*, and anything else liable to that insect, and see that it is extirpated before the plants become disfigured. Red spider is easily got rid of by laying the affected plant on its side and well washing the under sides of the leaves with the engine, applying the water with as much force as the foliage will bear. Repot strong-growing *Pelargoniums*; plants that are fairly established after repotting can hardly be kept too cool; also keep *Cinerarias* as cool and moist as is consistent with safety, and attend to repotting such as require it. *Primulas* must also be carefully attended to in order to encourage them to make rapid growth, particularly double varieties. Keep tree Violets clear of their great enemy, red spider, by a liberal use of the syringe, and give them plenty of warm water, which will assist in keeping them in vigorous health. Van Thol Tulips for forcing may be potted, place them on coal ashes and cover them, and early in November remove them into heat.—W. KEANE.

DOINGS OF THE LAST WEEK.

A rising barometer has relieved us from pelting rains; but so far as harvest work is concerned there has been great hindrance from a dense misty fog, which has continued without intermission from Saturday to Wednesday, and kept the surface of everything saturated with moisture. Such weather has told unfavourably on the ripening of fruit, and even what was pretty well advanced could not be gathered in such a damp state. The finer wall fruit seems to have suffered this season from two causes—a sort of parching of the skin, chiefly in Nectarines, when bright sun and cold nights succeeded warm dull weather; and then damping and rotting of Peaches from being surrounded with a continuous mist. We do not know what they may be in the north, but we fear there will be few fine October Peaches in the south this season on trees out of doors, if subjected to similar conditions. It is so far pleasing to hear that whilst we have had this thick misty weather, other places have been altogether or nearly free from it.

KITCHEN GARDEN.

Much the same as last week. Reference has been made to the *Early Ulm Savoy*, and we can corroborate what is said of its usefulness. It furnishes a great deal of gathering from a small space, as it may be planted with advantage, like Coleworts, a foot apart. To have fine huge heads of the larger Savoy is a good plan to sow in autumn and plant out then like Cabbage, or early in spring. These, though standing longer in the ground, will yield finer heads than those sown in spring, especially in cold soils. Gathered a lot of Tomatoes, and tied up Endive, the best Lettuces having suffered considerably from the continuous wet. Planted out Lettuces for standing, and for lifting when larger. Will bring Onions under cover as soon as dry. Strewed lime, burnt earth, and ashes over all fresh-planted things to keep them from slugs, &c. Weeds are again threatening, and it is of little use hoeing when the surface becomes green in such weather, as they take hold of the earth in a day or two. When the surface is becoming green with small weeds, the quickest way often to dispose of them is to turn them down with a shallow spit of the spade. Earthing-up Celery, &c., must be delayed until drier weather. There has been little need of the water-pail this season.

FRUIT GARDEN.

As already alluded to, the continuous drizzle or misty fog rendered picking fruit, for keeping, out of the question; but, notwithstanding the shady summer, fruit has ripened quite as early, or rather earlier, than usual. Even our late Peaches on the wall are over, and though they swelled well, they had less than their usual flavour. We have yet a fair supply in the orchard-house; but these, too, will be gone sooner than last season. With abundant air they could not have been kept later, except by shading the house, and that would have injuriously affected the flavour. Plums in the orchard-house, too, are dead ripe, although last year we had them good up to the end of the month. Many Nectarines out of doors, unless well shaded by their own leaves, which shading lessened colour, seemed to acquire a hard parched appearance in their skins even before they were ripe, although presenting no such aspect under glass. We attributed it to a bright sun and cold nights after a course of wet, close, warm weather.

Figs.—Some good fruit have been obtained from trees out of doors on a west aspect, but before the fruit are all ripe the leaves are turning yellow and falling, and other trees are showing signs of ripeness in wood and foliage earlier than usual. After such moist, growing weather, those who have the chance should now cover the borders of late vineries, and also those intended for early forcing, so as to keep wet and cold from them.

The leaves of the trees in our early Peach-house are not ripe enough for pruning to be practised. We wish they were, as the house would now be valuable for general storage, and the same may be said of our earliest vinery. Ere long every spare place under glass will be wanted.

Strawberries.—As we have been scarce of pots for fruiting Strawberries in houses, and it would be of no great use to pot good plants now, we have turned out a good many from 60-sized pots into a nicely-dug well-enriched piece of ground, placing them in rows a foot apart, and 6 inches asunder in the row, that they may be lifted in spring with good balls, and either potted or planted under glass. We have pricked out a lot of runners somewhat closer together, to be used for a similar purpose later, or for making fresh plantations in spring, lifting them with balls, which will thus liberate the ground that might

be used for Strawberries for other purposes, or at least allow of due preparation during the winter. These runners, pricked out now, if used at all for forcing late next spring, will succeed those pricked out as soon as they could be obtained in summer, and which are now nice strong plants, that will lift with good balls. For the earliest lifting in spring we prefer, however, those which have come from a small pot before planting them out in the open ground. The ball formed in the pot has a tendency to keep the roots nearer home.

Such plants turned out of small pots, or pricked out at once into rich soil for forcing-purposes, will require little trouble in winter in comparison with plants in pots, as the former will pretty well look after themselves; and where a slight hotbed can be given to the roots after potting or planting, whilst the tops are kept cool until the roots are growing afresh, they will bear well if taken up after the middle of March. To have plants to fruit well early under glass, say in February and March, they must be well established in their pots by the end of September, and the ball be as full and firm with roots as to be like a mould of cheese when turned out. We wish we could now put a lot of our earliest in 40-sized and 32-sized pots under the protection of glass to stop the progress of growth, which this moist weather encourages, and hasten on the maturation of the buds, which seem very strong, and we would only now like to see the foliage less vigorous and green. This season, with the exception of a dusting of soot on the surface of the pots, which the rains washed in, the pots have had no manure waterings; but when sunny drying weather permits of such waterings being given, early ripening of the foliage and buds is hastened, as well as strong vigorous growth. Comparative dryness will assist the ripening process now, but it will do little more than help, unless we have more direct light. We have proved over and over again that many fine plants that are barren in early forcing owe the barrenness to too much dryness in autumn and winter parching up the fruit-buds in embryo. The same result often takes place from having the soil, and especially the crown of the plant, too moist after forcing has commenced. There will be little danger of over-dryness if the plants be kept out of doors in winter, plunged or otherwise before forcing-time, and there will be no great danger of over-moisture if drainage is secured, so that the moisture can pass easily away, and the crown of the plant is well raised in the centre of the pot. Any of these extremes, and especially extra dryness, will be apt to occur when the pots are kept under glass in winter, if not frequently looked to and examined. If, as they ought to be, the plants have been firmly potted in their fruiting pots—and it is hardly possible to make the soil too firm if the roots be not injured—then that firmness and the mass of roots in little space will cause the leaves to show distress, and the soil to exhibit signs of separating from the sides of the pot whenever the soil becomes rather dry; and as soon as these signs commence to appear water should be carefully given. When the plants are kept out of doors in beds, and the pots unplunged, they are much more liable to suffer bad effects from changes in the weather than plants growing in the natural soil, as there all changes affect them gradually. Many fine plants with their pots exposed, and the soil inside of them wet rather than otherwise, have had their roots so injured by a sudden severe frost, that when shortly afterwards put into a gentle heat, what was left of the good roots would cause fresh leaves to come from the crown, but there would not be enough of root-action to start a flower-truss, and the flower-buds would either rot or shrivel up, or wait for more favourable circumstances to make their appearance. We note this latter fact because plants which have had their roots injured by frost, and thus refused to throw up their truss in the usual time, when taken back to a bed under glass until fresh roots were established, have then thrown up a healthy truss, but some six weeks or so later than their neighbours did. The exposure of the pots in winter is not sufficiently guarded against.

There have been several inquiries as to removing any of the leaves from potted Strawberry plants in autumn. We do not profess to know all the outs and ins in this matter, but we rarely remove a leaf then, as a fine mass of leaves, even when a little spotted, which they will be as the buds and crowns ripen, acts as a protection to buds and roots; but we clear away the most of such old withering leaves when we start the plants with heat, and this, we think, gives a better chance for a strong truss to come from the crown.

Planting Fruit Trees.—It is rather early to do this if the trees have to be brought from a nursery, and that at a distance, and with little or no earth about their roots, as much injury is

occasioned if the green leaves shrivel up without ripening, or the bark becomes at all shrivelled or shrunken, which would better be avoided by planting in the end of October, or the beginning of November. In all cases, however, it is well to prepare the places for planting, whether on mounds or otherwise, bearing in mind that the higher the roots are planted, the more will they be under atmospheric influence, and the sooner will the trees bear, and the more fruitful will they be. If the trees are at hand, and can be raised with small balls, or at least have a little earth about their roots, and the bare parts can be planted immediately, then the planting cannot be done too early during this month. If the tree has a small ball, let it be placed so that it will neither be too high nor too low, when the soil comes to its due level, and, therefore, the importance of a firm platform to plant on; the rest of the roots should be well packed in earth, and then moderately watered, the other rather moist soil being firmed round them. Little more will then be required besides syringing the foliage in an unusually sunny day, that the somewhat greenish leaves may ripen gradually, and not be shrivelled up prematurely. When trees are raised, and no ball can be retained at this early season, we would prefer placing the roots in a tub of water for fifteen minutes, that they might be surcharged with juices in preference to making the earth about them like a puddle. Such roots when nicely packed in suitable soil, and then gently watered, and the bulk of the earth packed round them, neither wet nor dry, will do well, and the tops will do well also, with a syringing over the stems and leaves in sunny weather, before the leaves fall. If fruiting plants are thus managed at this early period, they will in the following season exhibit little or no traces of the moving, but will swell their fruit as if they had not been removed at all. This early establishing of the plants in their new positions is the great advantage of early-autumn planting, and if it is not so generally done as it ought to be, it is not because gardeners are not well aware of the importance of so doing, but because a press of other work, in most cases, prevents them.

Raspberries.—Except in the case of perpetual and autumn-bearing kinds (and most kinds will bear in autumn if the shoots be cut down in spring, and those pushed be thinned out), the sooner the summer-bearing wood has been removed, and the other canes thinned to the proper number, the better will those left be ripened, and the better will they bear next season. In doing this work much earlier than the present time, care must be taken not to remove or tear off the leaves from the canes left, as until they drop naturally, the finer and the more untouched such foliage, the finer and more prolific will the fruit be next season. In hot, dry summers, no plants more enjoy manure-waterings and rich surface-dressings. The nearer the roots are to the surface, provided they are kept from dryness, and have a rich pasturage, the more prolific will such plants be, and the more continuous the bearing.

Melons.—Unless where there is plenty of dung heat, those in frames will not do much good in this dull weather. They will do much better where dry heat from fire, by flue or hot water, can be given; but unless to great Melon lovers, we always think that a Melon is of little consequence after the second or third week in October. To have the fruit at its best, needs the sun in its strength. There are a few places where they are deemed desirable all the year round, and if so they must be obtained, and receive a little more care than Cucumbers; but the latter eaten in the green state do not suffer as respects flavour, like Melons, from the absence of sunlight. In fact, we have known Cucumber plants produce nice, sweet, crisp fruit all the winter and spring, and then yield bitter, tough fruit when the days were at their longest.

ORNAMENTAL DEPARTMENT.

Machining Lawns.—The grass has been too wet to use our little machines, as the knives become too much clogged to permit of their easy working. What we have chiefly used lately are Green's chain machines, with cutters about 15 inches wide, each worked by one man. We are frequently asked why we do not have a larger machine, with a pony or donkey to draw it. We could use such a one better now than at one time, as we have wider spaces, free of trees or flowers; but for a small pony we could not well have a machine above 30 inches wide, and then at least a man and a boy would be wanted, the latter to drive and empty, for much is not gained by emptying the grass on the ground and then gathering it up again, and besides, it is contrary to one of our maxims—viz., "Never make a heap in cleaning that can be avoided." When a man takes his own machine he takes his barrow with him, and so places it as to be suitable for emptying into it the box as soon as this

fills, and then all is taken away at once. We know something of the time and labour in lifting numerous heaps of grass from a lawn, and cleaning up the bottom of each of these heaps. Hence when a horse is used, the larger the machine the more economical it will be, and then that economy will be greatest when the lawn is level and open, and unstudded with trees or groups of flowers. When the latter are numerous, and the spaces between them rather narrow, then small, single, one-man hand machines will be the most economical, and in their case at least we would never allow a boxful of cut grass to be laid on the lawn. Emptying at once into a large light barrow is the way to get quickly rid of it.

Mowing and Weeding.—For the above reasons, if the weather do not change quickly, we shall have to mow more than we would wish to do, as it is not so much the mowing as the sweeping up that takes up the time. Lawns are always the better, however, of having the scythe over them now and then. If obliged to mow now we shall take the opportunity to root up a lot of *Plantains*, which we could not find time to do in the spring, and of which some of the round-leaved kind have grown to a great size, owing to the moist weather. If we do so we shall scatter some Dutch Clover and other grass seeds on the spaces left bare, and therefore would much rather have done the work in March or April, as when done now the patch will be seen until the grass grow over it, and will look quite as bad as a huge *Plantain* among the surrounding fine herbage. If *Plantains* be not taken out by the roots the labour will be of little use. Even when cut an inch or two below the surface, and a pinch of salt put in the hole, that will not destroy the root to any depth, and from below the rotten part several stems will come up and make a huge cushion-like mass if let alone. Few things spoil the outline of a fine lawn more than the leaves of the *Plantain* (*Plantago major*), as if long let alone they will dip down below the general level as so many hollows for larks' nests. It is hardly possible to find any turf altogether free from these weeds, or any grass seeds in which a few of their seeds will not also be found. In comparison with *Daisies* on a lawn, *Plantains* are serious matters. A good switching with the Daisy knives keeps the flowers of the *Daisies* out of sight in spring and summer, and as the summer goes on the leaves are almost lost in the thickness of the grass.

This allusion to *Daisies* reminds us of what we intended to have alluded to under the head of "Strawberries out of Doors." Some time ago we mentioned putting some mown grass between the rows of *Strawberries* to keep the fruit clean, and stating that the chief objection to grass instead of straw, litter, or tan, was the almost certainty of plenty of *Daisies*, &c., from the grass. In some places where the *Strawberry* plants were not over-strong, we never saw such healthy strong *Daisy* plants as are there growing—a perfect thicket, each of them little less than a fair-sized plant of the *Hammersmith Cabbage*. Lettuce, the vigour being owing to the richness of the ground and the moist weather. In taking *Plantains* from a lawn, at whatever time, we prefer to mow the lawn first, weed out the *Plantains*, &c., taking them up with no earth about their roots, and laying them down to wilt on the lawn, and then to brush all up together and take the whole to the rot rubbish-heap, afterwards giving the lawn a good rolling.

Walks.—We have just now a little labour with these. They have given us little trouble all the summer, with the exception of a little weeding, a sweep, and a roll; they looked very nice, and were firm and smooth enough, if anything too much so; but now after this drizzly weather, either very small weeds are coming thickly on them—too thick to attempt to hand-weed them, or in more shady places they are becoming green with moss, &c. We could soon have made them clear enough with a good salting in a dry day, but the surface is already too smooth and fine for that, as the salting would make them soft and retentive of moisture all the winter. Slightly or deeply turning them would not do, as though they have worn well for many years, they were made shallow at first. As, notwithstanding the mists, the weather has been dry several days, we have hoed with a Dutch hoe where the little hair-like grass was coming the thickest, have well raked it, and will rake it once or twice as soon as we have sun, which we firmly believe will come before these notes appear, so as to kill all such little green dots before we roll the walks down, drawing the back of the rake nicely to level the walk the last time, so that the roller shall have easy work. On the moss-encrusted parts we will scrape off the moss with the draw-hoe, sweep all off, and sprinkle with some sandy gravel for the winter.

We could not follow our usual plan with the main pleasure-

ground walks this season, or we should not have been so likely to have seen a greenish appearance coming on them now. That plan with our smooth walks was to have the edges nicely cut in May, scatter fine salt all over them in a sunny day, and over the salt give a sprinkling of fine-sifted gravel, and then roll. The fresh addition thus became salted as well as the old surface. Few weeds, therefore, came in the fresh sprinkling, and the surface of the sprinkling being free from salt, the water was not held in it, as would be the case with fine-surfaced gravel walks salted now.

A fresh sprinkling causes a walk to look fresh, but it is not all an unmixed advantage, for though at times we have used such fine gravel obtained from a pit many feet below the surface, and not a weed would appear for a long time, we have used other gravel taken from a greater depth still, and it would not be on two months before it was green with seed grass weeds. As these seeds do not fly to a great distance, we must almost come to the conclusion that they were in the sandy gravel, and that contact with the atmosphere brought their long-torpid vitality into action. Be this as it may, we would advise the disuse of salt now for all walks at all fine and smooth on the surface, except for a few inches along the sides to keep worm-heaps from appearing.

For plants, cuttings, &c., see previous weeks' notices, with the exception of

Verbena Cuttings.—These placed in cold frames, and in frames with bad lights, with even a little bottom heat, have damped more than usual owing to the damp air, though plenty of air was given at night, owing to the bad glazing letting in the moisture from the heavens, also from the compost in which they were inserted being rather heavy, and not drained so well as usual. Fresh pots have been well drained, supplied with sandy compost, covered with a little drift and pit sand on the surface, and the pots were set in a slight bottom heat in a pit, with a hot-water pipe for top heat, where we have no doubt the cuttings will soon strike, and where they would have been struck ere now, could we have placed them there at first.—R. F.

COVENT GARDEN MARKET.—OCTOBER 6.

A MARKED increase in the supply of both fruit and vegetables during the past week has somewhat reduced prices, and particularly those of Grapes, which are now freely imported in very good condition, and can be had at from 1s. to 1s. 6d. per lb. Pears and Apples chiefly consist of the varieties mentioned in former reports.

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes..... each	0	2	to 0	4	Leeks..... bunch	0	5	to 0	0
Asparagus..... bundle	0	0	0	0	Lettuce..... per score	1	0	1	6
Beans, Broad..... bushel	0	0	0	0	Mushrooms..... pottle	1	6	2	6
Kidney..... ½ sieve	2	0	8	0	Must.& Cress, punnet	0	2	0	0
Beet, Red..... doz.	2	0	8	0	Onions..... doz. bunches	4	0	6	0
Broccoli..... bundle	1	0	1	6	Paraley..... doz. bunches	2	0	3	0
Brus. Sprouts ½ sieve	3	0	8	6	Parsnips..... doz.	0	9	1	3
Cabbage..... doz.	1	0	2	0	Peas..... per quart	0	0	0	0
Capoteams..... 100	2	0	4	0	Potatoes..... bushel	2	0	4	0
Carrots..... bunch	0	4	0	6	Kidney..... doz.	8	0	4	6
Cauliflower..... doz.	2	0	6	0	Radishes doz. bunches	0	6	1	0
Celery..... bundle	2	0	8	0	Rhubarb..... bundle	0	0	0	0
Cucumbers..... each	0	4	1	0	Savory..... doz.	0	0	0	0
pickling..... doz.	2	0	0	0	Sea-kale..... basket	0	0	0	0
Endive..... doz.	2	0	0	0	Shallots..... lb.	0	8	0	0
Fennel..... bunch	0	8	0	0	Spinach..... bushel	2	0	3	0
Garlic..... lb.	1	0	0	0	Tomatoes..... per doz.	1	0	2	6
Herbs..... bunch	0	8	0	0	Turnips..... bunch	0	4	0	0
Horseradish..... bundle	2	6	4	0	Vegetable Marrows dz.	0	9	1	0

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples..... ½ sieve	2	0	to 8	0	Melons..... each	2	6	to 5	0
Apricots..... doz.	0	0	0	0	Nectarines..... doz.	0	0	0	0
Cherries..... lb.	0	0	0	0	Oranges..... 100	12	0	20	0
Chestnuts..... bush.	12	0	0	0	Peaches..... doz.	4	0	10	0
Currants..... ½ sieve	0	0	0	0	Pears (dessert)..... doz.	1	0	8	0
Black..... doz.	0	0	0	0	..... doz.	1	0	2	0
Figs..... doz.	1	0	2	0	Pine Apples..... lb.	3	0	6	0
Filberts..... lb.	0	6	1	0	Plums..... ½ sieve	7	0	0	0
Cobs..... 100 lbs.	0	6	1	0	Quinces..... ½ sieve	5	0	0	0
Gooseberries..... quart	0	0	0	0	Raspberries..... lb.	0	0	0	0
Grapes, Hothouse..... lb.	3	0	5	0	Strawberries..... lb.	0	0	0	0
Lemons..... 100	8	0	14	0	Walnuts..... bush.	10	0	14	0

TRADE CATALOGUES RECEIVED.

W. Hooper, St. John's Hill, New Wandsworth, S.W.—*List of Hyacinths and other Flower Roots.*
Paul & Son, The "Old" Nurseries, Chessunt, Herts.—*Rose Catalogue.*

William Paul, Paul's Nurseries and Seed Warehouse, Waltham Cross, London, N.

Rose Catalogue, with a plate of Black Prince Rose.

Select Descriptive List of Hardy Pictorial Trees.

New Hybrid Nosegay and Zonale Pelargoniums.

Special Catalogue of Roses, Fruit Trees, Ornamental Trees, Shrubs, New Plants, &c.

Edmondson Brothers, 10, Dame Street, Dublin.—Autumn Catalogue of Hyacinths, Tulips, Lilies, &c.

TO CORRESPONDENTS.

“We request that no one will write privately to the departmental writers of the “Journal of Horticulture, Cottage Gardener, and Country Gentleman.” By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.

N.B.—Many questions must remain unanswered until next week.

BOOK (R. H. A.).—“The Garden Manual” contains what you need. You can have it free by post from our office if you enclose twenty stamps with your address. Any nurseryman can supply the plants and seeds.

HEATING A VINERY (R. M. S.).—The best way to heat your house would be by means of a saddle boiler and two rows (a flow and return), of four-inch pipes along one end and the front of the house. This would be ample for a house 12 feet in width. If economy be the object, then a flue running along the front and both ends would answer.

LONG-LEAVED CURLED KALE (Harriet).—We are not well acquainted with this variety, but some kindred sorts are more highly prized at table when they have been exposed to a little frost, and we expect yours will be improved in due time by its agent.

FRUIT SNOW (A Subscriber, Elgin).—We know of no more fruit shows this autumn.

SAFFRON (E. B.).—The directions for culture and manufacture are far too long for insertion in our pages. You will find full and lengthy particulars in “Rees's Cyclopaedia.”

STORING APPLES (J. T.).—They may be laid only one layer deep on the boards, and the light should be excluded. There is no book devoted entirely to hybridising plants.

FRANKENTHAL GRAPE—PEAR TREES UNFRUITFUL (G. S.).—The Frankenthal will be suitable for either an early or late vinery; but it is most advantageous to plant it for the general crop, and it is both vigorous and healthy on its own roots. If only one sort can be grown, it is the one. It will succeed with a little assistance from artificial heat, of which it will also bear a considerable amount. The Diamant Traube, or Scotch White Cluster Grape, may be grafted upon it if you want rods to quickly reach the top of the house; but it will also succeed on its own roots. The compost you supplied for the roots of your Peach trees may do very well if you guard against too much dryness and other causes of the attacks of insects. With regard to your old Pear trees which have never borne, that would have been an impossibility if you had checked the strong shoots and encouraged the weak by all the means in your power.

POLYANTHUSES (Rev. H. H.).—We have delayed answering this that we might make inquiries. They have been unsuccessful. Our correspondent wishes for a descriptive list of the best varieties, and he especially wants a very old one which he thus describes—“It is a double plant, dark brown, with yellow edges, not the common single. When a boy forty years ago we had several roots in our garden, and then called them Black Jacks.”

SLIGHTLY HEATING (W. O. B.).—We know of no lamp that would emit heat enough to exclude frost from a greenhouse 12 feet by 8 feet. A very small gas stove would effect the purpose.

SEEDLING GERANIUM (A Constant Reader).—It has no merit as far as one pip and one leaf enable us to judge.

ABALIA TRIFOLIATA (F. W. B.).—It is hardy in favourable situations, but not in those which are wet and much exposed. In cold wet localities and bleak exposed situations it is necessary to wrap the stems from the ground upwards with a hay or straw band, as they are liable to suffer in severe weather.

ARTICHOKES (Idem).—The Artichoke grown in France is the same as that grown in England. The reason of French Artichokes being so much finer and later in the season is the climate; ours is so much more moist and cold, that the late heads are liable to be cut off by autumn frosts. Another reason is that the French make fresh plantations in spring, and these produce heads late in the season. If you were to take off some of the strongest suckers in April or early in May, and plant them in good rich soil, you would find them produce heads late in the season. We have cut them on the 21st of December.

PEACH TREE SHOOT MILDEWED (A Young Gardener).—The shoot sent has had its point destroyed by mildew. Your best plan will be to wash the tree now with 4 ozs. of soft soap to a gallon of water, and, whilst wet, to dust the affected parts with flowers of sulphur. The mildew may appear next year. If so, syringe freely, and dust with sulphur.

MIGNONETTE (D. N.).—The plants from seed sown now should be kept on a shelf in the greenhouse, thinning them out to three in a pot. These will flower next spring, if you are fortunate enough to winter them.

CONSTRUCTING A CUCUMBER-PIT (J. Threafall).—Your plan seems to be good, but the battens, we presume, of wood to support the plants should be laths, and no thicker and no stronger than necessary. We do not perceive in what way your plan can be improved. It will, no doubt, answer well.

CHRYSANTHEMUM BUDS THINNING (A Lady Reader).—Early in August the flower-buds show themselves. Generally a single bud presents itself, to which a kind of strap-leaf is attached; this is the bud that produces the finest flower. When that is well defined and has a green and healthy appearance, at once remove all other buds which are formed above it on the extreme points of the plant; these buds are usually formed in threes. Should the single bud alluded to be unhealthy, then select one of the three terminal buds in its place.

DEUTZIA CRENATA FLORE-PLENO NOT FLOWERING (A Constant Subscriber).—The reason your plant did not flower last winter was its not being set with bloom-buds in autumn. This *Deutzia* is quite hardy, and should have an open situation out of doors from May to November, presuming the plants to have been forced. If you have thus had your plants exposed, and copiously supplied with water during the summer, we should suppose that they will now have plenty of bloom-buds, and if kept with the pots plunged in coal ashes until January, and then introduced into the greenhouse, they will flower well in spring. We fear that you are treating them as greenhouse plants. They will grow, as you say, vigorously, but not flower.

ALPINES FOR EARLY BLOOMING (H. McLean).—*Arabis alba*, *A. alpina*, *Saxifraga oppositifolia*, *Alyssum saxatile compactum*, *Anubretia deltoidea grandiflora*, *Anemone apennina*, *Iris reticulata*, *Omphalodes verna*, *Orobis vernus*, *Primula acaulis* var. double lilac, dark crimson, sulphur, white, and purple; *F. auricula* vars. *Scilla sibirica*, *Cheiranthus alpinus*, and *C. Marshalli*.

ROSES FOR BEDDING (Idem).—*Hybrid Perpetual*: Madame Boutin, Caroline de Sansal, Jules Margottin, Senateur Vaisse, Géant des Batailles, Maréchal Vaillant, Charles Lefebvre, and John Hopper. *Bourbon*: Baron Gonsella. *China*: Cramoisis Supérieure, Clara Sylva, Fabvier, Mrs. Bosanquet, and Lady of the Lake.

GLADIOLI (Idem).—Six good are: Ceres, Dr. Lindley, John Waterer, Gollath, Reine Victoria, and James Watt.

WINTERING CUTTINGS (A. B. C.).—Your cuttings would winter more safely in the boxes in which they have been struck. Pot them off in February or early in March, and afford them the benefit of a mild hotbed until re-established.

PROPAGATING GOLDEN CHAIN AND CLOTH OF GOLD GERANIUMS (Idem).—Your plan of striking them at this season in pots on a gentle hotbed is the only available process. What you have to guard against is damp.

SALVIA PATENS AND S. COCCINEA NOT FLOWERING (W. C.).—We think that the cause of the flower-buds forming and then dropping off is the wet weather. A period of dry bright weather would make all the difference.

CENTAUREA CANDIDISSIMA CUTTINGS (Idem).—The best time to take cuttings is March, the plants having previously been placed in heat for a few weeks to induce growth. They require a mild hotbed. You may take off the side shoots now close to the stem, and they will strike in a hotbed, only do not over-water. Insert them in sand, and slightly trim off the base of the cutting, merely removing any raggedness consequent on the slipping off.

PLANTS FOR CONSERVATORY (C. C.).—We think that few plants would do well in it, especially as you say Camellias never flower. You might try *Acacia armata*, *A. longiflora* magnifica, and *A. oleifolia* elegans, *Brugmansia suaveolens*, *Valloia purpurea*, *Witsenia corymbosa*, *Plumbago capensis* for a pillar; *Indigofera decora*, *Hydrangea hortensis*, *H. japonica* and its variegated form, *Chorosema cordatum* splendens, *Lilium auratum*, *L. lancifolium* rubrum and punctatum, *Imantophyllum miniatum*; *Habrothamnus elegans*, *Abell*, and *magnificus* for pillars if you have them; *Epiphyllum Ruckerianum*, *Russellianum*, and *Salmonium*, *Cassia corymbosa*, *Burchellia capensis*, *Coronilla glauca*, and *Cytisus racemosus superbus*. Ferns, however, would perhaps best serve your purpose.

GERANIUM (W. H. B.).—It can only be a sport, if you are sure that the cutting was taken from a Flower of the Day Geranium.

ROSE CULTURE (Hughes).—1. “When is the proper time for attending to Rose-beds?” Attend to them at all times. November is the usual time for planting, transplanting, and dressing with manure. September, however, is the great autumnal root-making month. I have removed about 1100 Roses between August 22nd and September 22nd, and their soft wood is cut out, and the second growth also. Their eyes are fresh, and they look well. If the wood is not hardened, November is better than September. The best plantations of Manetti Roses I have ever had were planted on the 10th of September and the 10th of October. Careful removal stops over-succulent growth; the plants quickly make new roots, and solidify their wood. I can move them any month in the year without the least detriment. The leaves must be kept moist till the roots set. 2. “Is root-pruning advisable?” When a Rose does well do not interfere with the roots. If the plant runs to wood and does not produce flowers, root-prune, or, take up and prune the roots, and do not give it manure till it has formed its buds. 3. “Is manuring Roses desirable?” Roses in inferior land will consume any amount of manure. If you do not manure you will have worthless Roses. If you manure highly the plants will be more subject to mildew and other fungi. Roses fall oftener through want of manure than from hypertrophy, and also oftener from drought than from hydropathy or frost. Orange fungus has done me far more mischief this year than mildew. I have cut away all the injured wood, hard and soft, to where the skin is clean and the eye looks fresh. Some of the Manetti Roses transplanted here August 22nd are in fine leaf and bud.—W. F. RADOLYFFE.

DACTYLIS GLOMERATA—GOLDEN ARABIS (An Old Shropshire Subscriber).—*Dactylis glomerata* is perfectly hardy. If divided at once and pricked, out in some good sandy loam on a south border it will make good plants by next May. The beds should be elevated a little above the general level, so that no water may lodge about its roots. The richer the soil the more luxuriant the plant will grow. It is, however, better to prick the small side pieces out into a free sandy loam in the autumn, and remove them into rich soil in the spring. If this is done early in April the plants may be divided again at the end of May. Any common garden soil will suit Golden Arabis. Divide it at once, as recommended for *Dactylis*. We never heard of its being propagated from seed.

ERRATUM.—Page 268, 1st column, 40th line, “a sprinkling of hay over the Mushrooms” should be “a sprinkling of hay over the cloth or mat.”

IVIES — CLEMATIS — JASMINUM GRANDIFLORUM — PLANT FOR NORTH WALL. (*Mrs. M.*).—1. The Ivies you name will do to train round a wire, for they are hardy in situations which are not very exposed or bleak; but they will not do without protection if the soil is wet and heavy. A well-drained and not very rich soil makes all the difference between their being hardy or not. 2. The leaf-pattern you sent appears to have been cut from a leaf of *Hedera digitata*—a very fine Ivy for rustic work. 3. Silver-belted Ivies, *Hedera helix arborescens alba lutescens*, and *marginata argentea*; *H. canariensis marmorata*; and the slender kinds with silver-margined leaves, *H. helix marginata* vars. *argentea*, *pulchella*, *robusta*, *major*, *Cullisi*, and *elegans*; the golden-blotched and belted *H. helix aurea maculata*, and *H. canariensis aurea maculata*, the first being a form of *arborescens*. All the variegated Ivies are liable to exhibit different degrees of variegation—to have more green and less variegation at times than usual. 4. The Clematises planted against Pines would grow more freely if manured, but we apprehend dryness of the soil is the cause of their not being vigorous, they not doing well on evergreen trees. 5. You may plant the *Jasminum grandiflorum*, which we presume is the large-flowering variety of Sweet Jasmine (*Jasminum officinale grandiflorum*), against the south wall of your house, either with or without covering the roots with cocoa-nut fibre. It is quite hardy. 6. Evergreen, or Dutch Evergreen Honeysuckle would do on the north wall. *Cratægus pyracantha* would also do, and is much finer than Honeysuckle for such a situation.—G. A.

VINE-BORDER SOIL. (—).—The soil when received was all alike and mixed in the box. It looked like good soil, which had become like dried mud after having stood in stagnant water. The bottom of the border, if flagged as you say, and sloping from back to front, would be greatly improved by drainage, and still more so if the Vines were raised, open rubble laid all over the flags, with a deep drain in front, turf reversed laid on the rubble, and a good drain in front. When information is asked it is desirable to use ink instead of pencil, and to write on a sheet of paper that the queries may not be separated and misapplied.

STOVE PLANTS FOR CUT FLOWERS. (*J. Clarke, Cork*).—*Gardenia florida*, *Hoya carnosa*, *Gardenia citrifolia*, *Brachyotum pulchellum*, *Hebeclitium lanthamum*, *Franciscia confertiflora*, *Rondeletia speciosa major*, *Poinsettia pulcherrima*, *Euphorbia jacinthifolia*, *Stephanotis floribunda*, *Jasminum gracile*, *Justicia speciosa*, and *Luculia gratissima*.

VINES FOR A GREENHOUSE. (*Ardent Lover of Flowers*).—The White Frontignan is a most abundant bearer, producing good bunches and good-sized berries. Your Sweetwater has probably not set, hence the berries are very small. The White Frontignan is a much better Grape, and has a fine Muscat flavour. In your house of 15 feet long you will have room for five Vines at 8 feet apart, and to those you have we would add the White Frontignan, a Black Hamburg, and a Trentham Black. The berries of your Sweetwater Grapes may be small from the number of bunches left, twelve being too many for a Vine the first year of bearing. Half the number would have been better.

GREENHOUSE LEAKING. (*An Inquirer*).—It would be better to consult a painter and glazier as to the cause of your house leaking. If it should arise from the roof not having been painted for some years, and the putty having become loose and falling off, then we know of no other way than replacing all the loose putty, and well painting the whole. Of course all broken and defective glass would be replaced at the same time. If the house is an old-fashioned one, glazed with small squares of crown glass, and many of them are broken, we would take them all out, and replace with 21-oz. sheet glass in large squares. The cheapness of the latter as compared with crown glass, and the better appearance which it will have, will fully compensate for the little additional cost. We would not advise any extensive repairs with old crown glass or thin inferior sheet, as the after-breakage is so great with the common kinds that it is generally cheaper to have the work done well at first.

NAMES OF FRUITS. (*A. Thurtell*).—Pears: 1, Seckle; 2, Dunmore; 3, Fondante d'Automne; 4, Autumn Colmar; 5, Vicar of Winkfield; 6, Marie Louise; 7, Passe Colmar; 8, Retour de Rome; 10, Calebasse; 12, Uvedale's St. Germain; 18, Beurré d'Arenberg. (*A Subscriber, Uppingham*).—Pears: 1, Vicar of Winkfield; 2, Beurré Diel; 3, Fondante d'Automne; 4, Forelle; 5, Duchesse d'Angoulême; 6, Napoleon.

NAMES OF PLANTS. (*L. R. H. N.*).—The petals of all the Geraniums were shed; but if they had not been, we have again to reply that we cannot undertake to identify florist's flowers, they are so numerous and so many are nearly alike. (*F. A. C.*).—The specimen was very much crushed; we think it is *Enonymus latifolius*, or Broad-leaved Spindle Tree. (*T. S.*).—*Spergularia arvensis*; *Nasturtium officinale*. (*J. Armstrong*).—1, *Asplenium premorsum*; 2, *Lastrea decomposita*; 3, *Pteris heteromalla*; 4, *Omphalodopsis verna*; 5, *Gypsophila repens*; 6, *Erysimum Perfoliatum*. (*Mrs. Strange*).—The Fern is *Cystopteris fragilis*. The other plant may be *Salvia argentea*, but we cannot say from a single leaf.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending October 6th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	1 ft. dp.			
Sun... 30	30.068	29.988	66	51	60	57	S.	.00	Foggy; fine; densely overcast.
Mon... 1	30.064	29.987	61	50	60	57	N.E.	.00	Overcast; uniformly overcast; hazy; densely overcast.
Tues... 2	29.970	29.988	70	51	60	57½	N.E.	.00	Foggy, with heavy dew; uniformly overcast.
Wed... 3	30.011	30.004	71	52	60	58	N.E.	.00	Foggy, with heavy dew; very fine; densely overcast.
Thurs... 4	30.080	30.086	62	50	61	59	N.E.	.00	Hazy; slight fog; dull and overcast; heavy dew.
Fri... 5	30.287	30.211	55	53	61	58	N.E.	.01	Hazy; overcast; slight drizzle; sunless throughout; temperature
Sat... 6	30.417	30.379	61	49	60	58	E.	.00	Heavy dew; overcast; damp and (nearly as low in day as at night) sunless.
Mean	30.127	30.081	68.71	50.71	60.28	57.78	..	0.01	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

VULTURE-HOCKED BRAHMAS.

PERHAPS this matter has been written on until it wearies, and I did not intend to have again touched on the point, but "BRAHMA, N.V.H.," whilst writing against the vulture hock, has so completely confirmed some of the positions I have held in these columns, that I beg to add a few more "last words" on this troublesome question.

In the first place, I have been considered by some to go in for the vulture hock complete—viz., stiff feathers projecting from 2 to 5 inches beyond the joint. I will not deny that such birds may be as pure as any; but I have never advocated this, for I confess I do not like it; but were I forced to select this or an absolutely naked-hocked bird to breed from, I think I should choose the vulture hock complete. It would be to my mind the less evil. I have written, or fancied I had, in favour of soft feathers, projecting from half an inch to 1½ inch beyond the joint and curling round it, thus hiding it from view. "BRAHMA, N.V.H.," says, "The existence of short fluffy feathers that merely curl round" (the italics are his), "the joint would hardly be called an offence." But these identical short fluffy feathers are an offence to some judges, and it is against this fiat that others besides myself have appealed. The reply to this appeal from one of our "judges" was, that amongst other points it was of recent introduction. Kindly mark the word, friend "BRAHMA, N.V.H." I have endeavoured to prove this an error before, and I now have to thank "BRAHMA, N.V.H." for supporting this, and proving incontestably that it is nothing of the kind. He perfectly recollects Mr. Gilbert in the height of the *Cochin mania* show-

ing him a pullet perfectly naked-hocked—ah! no, I beg pardon, *vulture-hocked*, so that Mr. Gilbert declined to avail himself of her as a means of fresh blood!! I do think this case bears out the suggestion I made in a former letter, as to the reason why the earliest importations were not so much vulture-hocked; but in any case, it does certainly prove that the judge is decidedly incorrect when he says the addition is of recent introduction. I have written strongly, perhaps, but, I trust, fairly on this point, because I believe the adoption of the naked-hocked standard will injure, nay, has injured the breed; that instead of our having birds with legs well feathered and projecting from the hock downwards—

Thus far I had written last night, and now "our Journal" has arrived, and contains a few more words on the subject from "BRAHMA, N.V.H." I confess I hardly understand them. On the part of those who have advocated moderate hock feathers, I have not noticed from others, "thinly veiled personalities or unkind innuendoes." I cannot answer for myself, for, perhaps, we need that

"Some say the gift should give us,
To see ourselves as others see us."

I can only reply, that I have meant neither the one nor the other. I have been obliged personally to write much about the "Judge's" opinion, but as that decision was the cause of the difference, I could not help myself, and I can only write, that if anything I have written is unfairly personal, I regret it exceedingly.

With these few words apologetically, I will return to the hock, and repeat my own conviction that the naked hock is accompanied by scanty feathering, especially just below the joint, and that in my humble opinion this is not desirable; that a full feathering of the outside of the middle toe is an advantage, and that this advantage is rarely found in naked-hocked birds.

Lastly, I may add, that as according to "BRAHMA, N.V.H.'s" own proving, it is not a recent introduction, but actually came in the height of the Cochin fever. Cochins and Brahmans might be judged irrespective of this addition and not disqualified because it exists in a moderate degree, which seems to have been the fate of my old bird "Champion."

If the moderate hook accompanies a leggy bird with poor feathering and otherwise bad, by all means let the bird go unadorned, even if he be the sole representative of the class; but it is hard, and on the face of it certainly appears unfair, that one judge should leave unnoticed a bird that numbers of other judges, and even contending exhibitors, agree in saying is worthy of some distinction.—Y. B. A. Z.

THE MIDDLETON POULTRY SHOW.

I WRITE to protest against the unfair and unwarranted remarks contained in your report of our Show, held on the 20th inst.

First, I complain of the misrepresentation as to the kind of pens used for the poultry and Pigeons, your informant stating that "the poultry and Pigeons were in pens without covers." The fact is, there was not a single Pigeon in an open pen, and out of 530 pens containing poultry, there were only fifty of the number in the kind of pens complained of. The 480 pens were of the very best kind, and the whole would have been the same but the joiner failed to have them ready in time for the Show, although he had the order a fortnight before.

With regard to the system of double numbers in use at our Show, I must tell your reporter that it is from experience and a due regard to the best interests of exhibitors, especially those residing at a great distance, that we find the double-number principle, in practice, to be the fairest and most impartial method that can possibly be adopted; and our conviction is, that its adoption here is the secret of the success and fame which the Middleton Show has now attained. It is neither intricate nor difficult in any sense, only requiring ordinary care in its management. Where there are two or three Stewards possessed of ordinary ability, the plan can be easily carried out, and it is not very likely the double-number system will be dispensed with at the Middleton Show.

Perhaps the most serious matter to the writer is the allusion to the non-despatch of labels to exhibitors, and I do think that before your informant had committed himself, he was certainly bound to ascertain the real merits of the case. This he has not done, as in the case of the Game pullets, which he says were entered but not inserted in the catalogue. The fact is, they were not entered at all, as the Secretary never received any communication whatever from the owner of the pullets. Every, file, nook, and corner has been ransacked in vain to find any trace of a letter or entry-form containing the entry of these birds, hence it was not possible they could be in our books. It is to my mind a clear case of misdirection, miscarriage, or interception.

You will, I feel sure, agree with me that, in a Show of the magnitude which ours has become, it is scarcely possible for every matter of detail to be so complete as to escape some small hitch or other to cause annoyance and additional trouble to parties concerned.

Again. Some exhibitors do not know what an amount of personal discomfort and worry the officials of such societies undergo on the eve of an exhibition, or they would be somewhat more reasonable and considerate than they are. Is it not a fact that nearly all entries are delayed until the very last moment, and arrive in every conceivable way, manner, and form? Some exhibitors quote wrong numbers, many enclose no fees at all, whilst not a few send a portion only, and not unfrequently entries are received with stamps, &c., enclosed, without either the names or addresses of the parties who sent them. A whole chapter could be written on this subject, clearly demonstrating that exhibitors might very considerably facilitate the onerous and multifarious duties which crowd upon a Secretary in the shortest possible space of time.

I would suggest that in all cases exhibitors make duplicate copies of their entries; the adoption of which, and the forwarding of entries, say a week before the close, would do a great deal to prevent mistakes, and also be the means of correcting any which might have occurred.

In concluding this very hurried and imperfect letter, I can only assure you, that all officials connected with the Middleton Show are extremely desirous of doing all in their power (not

in trying to please everybody, for they well know the consequence of this folly), to give real, substantial, and as far as possible, perfect satisfaction, with a single aim to make Middleton Poultry Show what it is fast becoming, one of the foremost shows in the kingdom.—THOS. MILLS, *Secretary, Middleton Agricultural Society.*

You will oblige me by correcting a mis-statement in the report of the Middleton Agricultural Society's Show in your Journal of the 25th ult. In the class for Black Hamburgs your reporter placed Mr. Sedgwick first for single cockerel, whereas it should have been Mr. John Holt, Little Green, Middleton. I must give your reporter credit for his report, as it was not his mistake, but that of the parties who penned the bird. They placed it in the wrong pen, whereas the number on the hamper was as plain as possible. This was not the only mistake made at this Show, as there was some mismanagement somewhere.—JOHN HOLT, *Little Green, Middleton.*

RAILWAY 'CHARGES FOR POULTRY.

I SENT to the Middleton Poultry Show four baskets of fowls, for which I paid 4s. 8d., a charge I consider very reasonable, the distance being rather over a hundred miles. On their return, on inquiring the amount to pay, I was informed 7s. 8d. I invariably find that my birds cost me nearly double the amount of carriage on their return journey. What say other exhibitors? Is it so with them? I should be glad to hear their opinions, though I believe they will coincide with mine. Cannot we adopt some remedy to get our fowls returned home for the same price as we send? Surely the secretaries of the different shows can arrange for the carriage as well as we can.

The fault of excessive carriage lies at the end where the shows are held, and it is at that point that our worthy captain "Y. B. A. Z." must make his next attack, as I am afraid what we little folks say will have but little effect.—MAURICIO.

WHITE COCHIN-CHINAS.

BREEDERS of White Cochins will be glad to see the improved position their favourites are to hold at Birmingham this year. In 1864 there were only two classes for Whites, with but four prizes amounting to £10. Last year the classes were the same, but an additional prize was given in each class, raising the amount to £14. Now, any person who has kept the catalogues for these two years, and who will take the trouble to compare the prizes offered to Partridge with those offered to White, and then compare the number of entries in each variety, will at once acknowledge the justice of the course pursued by the Committee of 1866 in making Whites equal in all respects to Partridge. We can see no reason why this beautiful variety should not be encouraged, or why it should not become as popular as any other. Let those who live in smoky dirty towns keep their Partridge, but let those whose happier lot it is to live among green fields and in a pure atmosphere keep their Whites. No variety looks so charming when kept in a run out of sight of tall chimnies, and where the wash-tub is unnecessary. We sincerely trust to see a splendid show of White Cochin-Chinas at Birmingham, and hope they will maintain the high position they have gained.

The extra prizes offered by two spirited breeders will also help to insure success. We only wonder that the same has not been done in the case of other varieties. Nothing tends to make a good show like good prizes, and nothing tends to make any variety popular, like a good muster at great shows like Birmingham.

RESPONSIBILITY OF RAILWAY COMPANIES FOR POULTRY.

It may be as well for poultry exhibitors to know that, in addition to the grievance of having to pay carriage both to and from exhibition, they may also have to suffer the loss of their most valuable birds without receiving any compensation from the railway company. Such has been my experience with the Midland Railway. My pen of La Flèche was returned to me from Halifax with the hamper partly crushed, the cock (first prize at the Bath and West of England Show, 1866, and a most valuable bird to me), dead, with every appearance of

having been run over, and the hen with its leg broken, so that I was obliged to kill it at once. On inquiry I found that the damage occurred whilst under the care of the Midland Railway Company; but on application could obtain no redress, and was told the Company did not hold themselves "responsible for any fancy price put upon poultry, that an important principle was involved in dealing with claims of this description, and they would be quite prepared to resist any action I might be advised to bring against the Company;" so that I had the pleasure of paying back carriage on a dead cock and a hen with a broken leg, not being aware of my loss at the time. Had it been a horse, according to their own tables, the Midland Railway Company would have been liable to the extent of £50. I only claimed £3 15s. altogether, which no man of common sense can call exorbitant for exhibition birds. Mr. Needham wrote me, "I shall be quite willing to pay a reasonable price for the poultry as such, it being understood that this offer is made without prejudice in the event of its not being accepted." I wrote in reply that I presumed "he meant an eating price, about 2s. 6d. to 3s. 6d. each," which of course I declined. I have something else to do than bring actions against railway companies, but will certainly avoid as much as possible sending by the Midland.

There is a little consolation for exhibitors in the fact that all railway companies do not act in the same manner. The Great Eastern only charge carriage one way at the approaching Chelmsford and Ipswich Shows, the South-Western at the Southampton, and the Brighton neither way at the Shoreham Show, so I trust they will be well supported.—EDWARD PIGEON, *Lympstone, near Exeter.*

[We wish that Mr. Pigeon would pursue his claim against the Midland Railway Company in the County Court. The cost would be little, for the Company admits its liability to pay something. It is merely a question of amount. We think the Company is liable for the sum claimed.—EDS.]

A LITTLE ADDITIONAL LIGHT THROWN UPON JOHN MOORE,

AUTHOR OF THE "COLUMBARIUM."

MR. HOTTEN'S "History of Signboards" has recently fallen into my hands. It is a book well worth both perusal and possession, and just written in time to save some very peculiar antiquarian knowledge from being utterly lost. In another generation who would know anything about signboards? They are disappearing even from village, and yet many a first-rate artist has painted one in his youth, when his purse was low, and his name as yet no word of power; and, too, they bore frequently such odd titles—titles which had a history attached to them. So I am thankful that we have at last a history of them. At page 341 of Mr. Hotten's work there occurs a passage of some interest to those who, like myself, have a respect for our first writer on fancy Pigeons, old John Moore. It is this: "One of the signs originally used exclusively by apothecaries was the Mortar and Pestle, their well-known implements for pounding drugs. Among the celebrities who sold medicines under this emblem was the noted John Moore, author of the celebrated worm powder, to whom Pope addressed some stanzas beginning—

"How much, egregious Moore, are we
Deceived by shows and forms!
Whate'er we think, whate'er we see,
All human kind are worms."

"His shop was in St. Lawrence Poulteney Lane, formerly he lived in Abchurch Lane. Every week the newspapers contained advertisements proving, by the most wonderful cures, the efficacy of his powders."

Mr. Hotten seems to write as if he had seen some of these advertisements. I would observe that we need not think of Moore as being an unprincipled quack, such as we are familiar with in this day, who impose upon the credulity of the humbler classes, to the injury certainly of the pockets of the latter, probably of their health. Nothing of the quack appears in the "Columbarium." Moore seems to have been a sensible man, and his remedies for the diseases of Pigeons have been quoted with commendation by every writer since his time. Indeed, many old and well-known patent medicines are excellent, and frequently recommended by regular practitioners. Mr. Hotten speaks of Moore as a "celebrity," and his medicines as "celebrated;" and in addressing Moore as "egregious," I would observe that the word was used most probably by Pope in its

original and complimentary sense, meaning "remarkable or eminent." Turning to the works of Pope, vol. vi. of the edition of 1754, I found all the lines, which are as follows:—

"Man is a very worm by birth,
Vile, reptile, weak, and vain;
While he crawls upon the earth,
Then shrinks to earth again.

"That woman is a worm we find
E'er since our grandame's evil;
She first convers'd with her own kind,
That ancient worm, the Devil.

* * * * *

"The tops are painted butterflies,
That flutter for a day;
First from a worm they take their rise,
And in a worm decay.

"The flatterer an earwig grows.
Thus worms suit all conditions:
Misers are muckworms, silkworms beaus,
And death-watches physicians.

"That statesman have the worm is seen
By all their winding play;
Their conscience is a worm within
That gnaws them night and day.

"Ah, Moore! thy skill were well employ'd,
And greater gain would rise,
If thou could'st make the courtier void
The worm that never dies.

"O learned friend of Abchurch Lane,
Who sett'st our bodies free!
Vain is thy art, thy powder vain,
Since worms shall eat e'en thee.

"Our fate thou only canst adjourn
Some few short years, no more!
E'en Bunton's wits to worms shall turn,
Who maggots were before."

Thus, henceforth the name of Moore may be connected with that of the bard of Twickenham, a true poet if ever there was one; Moore, too, was a man in a good position during life, and much looked up to. We see Pope calls him his "learned friend." It is at any rate possible that the little poet paid visits to Moore while he lived at the "Pestle and Mortar" in Abchurch Lane; that he drew his little feeble body upstairs to Moore's Pigeon-loft, where, Londoner like, he kept his Pigeons; yea, that Moore, together with a most apologetic note for the great liberty taken, sent to Twickenham a copy of "The Columbarium." We all know how Pope loved his garden, and the great taste he showed in laying it out. Who knows but that, like Cowper, he also loved to feed his fancy Pigeons? If he did, there is little doubt but that they came from his "learned friend" John Moore. A garden is most loved, pets are most cherished, by a delicate-minded and feeble-bodied person—by one who cannot take much exercise, and who, like Pope, has, alas! to speak of "that long disease, my life."

The death of Mr. Moore is thus recorded in the "Gentleman's Magazine for 1787:—"April 12th.—Mr. John Moor, of Abchurch Lane, the noted worm doctor. He will now shortly verify Mr. Pope's witty observation—viz.,

"O! learned friend of Abchurch Lane,
Who sets our bodies free,
Vain is thy art, thy powder vain,
Since worms shall eat e'en thee."

—WILTSHIRE RECTOR.

OSWESTRY POULTRY SHOW.

THAT the Show held on the 5th inst. under the management of the Oswestry Committee was far superior to any preceding it admits of no second opinion, for not only was the number of entries augmented, but the superiority of the classes generally was unquestionable.

The Show was this year held in the Powis Market Hall, a very suitable building, which offers the combined advantages of good ventilation, ample space, and an amount of light to every pen equal to any that could be obtained even in an open show-field. No doubt so favourable an opportunity of exhibiting without fear of injury from weather, caused a great accession of entries from some of our most noted poultry breeders, and, consequently, the Oswestry Show this year well deserves most favourable mention. The birds were all most carefully attended to. Not a few pens had travelled to this Show from the Emerald Isle.

The Game fowls, as is commonly the case in this district, were excellent; but it was remarkable that, though entries were made, every pen in the class for Duckings, or other Greys or Blues, was vacant. Some unusually good *Dorkings* were shown, both Coloured and White, but the malformation of spurs outside the legs, instead of in their proper position, proved fatal to the success of many pens otherwise very meritorious. First-rate *Cochins* were exhibited, both Buff and Partridge-coloured, but no White ones were shown. The classes for

Black Spanish fowls were far superior to anything we have yet seen this season, and the winners secured their success against a very close competition. The *Hamburgs* were far better than any hitherto shown at Oswestry, and attracted much public attention. The *Brahma Pootras*, excepting the prize birds, were not perfect, the whole proving to have been bred in gross irregularity of feather. One sport of plumage in this class, however, is well worthy of mention, as it attracted much attention from those visitors who viewed the collection rather for its beauty than its perfection. A pullet was shown having the whole crop and breast as regularly and perfectly laced on every feather as a Sebright Bantam. This, combined with the fact of the ground colour being white, produced a singularly striking effect, and was unquestionably pretty. The fellow pullet, however, showed but a slight approach to this very singular development of feather. The Bantam Game class was not so good as might have been hoped, but good Sebrights and Black Bantams were exhibited.

Even at our largest shows of poultry the Aylesbury Ducks and Geese could not have been excelled. In these classes perfection of characteristics was almost universal, the scales were therefore brought into requisition, and Mrs. Seamons's present triumph is to be attributed entirely to careful management. This lady's Toulouse Geese were first, Embdens second; and in the Ducks, when it became a question of weight, both prizes were easily secured by birds from her yard. The Rouen Ducks were not so good as we expected, and the Any other variety class of Ducks was so indifferent throughout, that both prizes were withheld. The *Turkeys* were undoubtedly good. The Selling class, open to all varieties, was not only a large one, but many very cheap pens were shown.

In *Pigeons*, Mr. Yardley, of Birmingham, had it all his own way, he having on this occasion sent an ample stock of his best birds, evidently taking the Oswestry Pigeon-fanciers quite by surprise.

A very excellent collection of the most popular varieties of French fowls was exhibited by Mr. James Cooper, of Limerick, and although not entered for competition, by the generous concession of the Oswestry Managing Committee prizes were awarded to them of the like value to those in the general classes.

CHICKENS.

GAME (Black or Brown-breasted Red).—First and Second, J. H. Williams, Welshpool (Black-breasted Red). Highly Commended, W. Gamon, Thornton-le-Moors (Black-breasted Red). Commended, J. Heath, Nantwich (Game).

DORKING.—First, Mrs. Bailey, Shooter's Hill, Longton (Coloured). Second, Miss Davies, Chester. Highly Commended, F. W. Zurhorst, Dornbrook; J. Heath (White).

COCHIN-CHINA (Brown or Partridge).—First and Second, E. Tudman, Whitechurch.

COCHIN-CHINA (Cinnamon or Buff).—First, J. Nelson, Heaton Mersey (Buff). Second, F. W. Zurhorst (Buff).

SPANISH.—First, J. R. Rodbard, Aldwick Court, Wington. Second, C. Barber, Walsall. Highly Commended, Miss Davies; J. R. Rodbard. Commended, T. Ace, Yatalyera, Swansea; J. C. Cooper, Limerick.

HAMBURG (Silver or Golden-pencilled).—First, J. Skinner, Newport (Silver-pencilled). Second, E. Shaw, Plas Wilnot (Golden-pencilled). Commended, F. D. Mort, Moss Pit House, near Stafford (Golden-pencilled).

HAMBURG (Silver or Gold-spangled).—First, S. & R. Ashton, Mottram, near Manchester (Gold-spangled Hamburgs). Second, T. May, Wolverhampton (Gold-spangled Hamburgs).

BRAMA POOTRA.—First, Mrs. M. Seamons, Aylesbury. Second, E. Roberts, Chirbury, Salop.

GAME BANTAM.—First, J. Atkins, Walsall. Second, W. F. Entwistle, Chapel Allerton, Leeds.

BANTAMS (Any other variety).—First, S. & R. Ashton. Second, E. Cambridge, Bristol (Black).

TURKEYS.—Poults.—First, Miss Davies, Chester. Second, E. Leach, Rochdale. Highly Commended, E. Leach.

GOSLINGS.—First and Second, Mrs. M. Seamons. Highly Commended, W. Gamon, Thornton-le-Moors. Commended, J. C. Cooper.

DUCKLINGS (Aylesbury).—First, Mrs. M. Seamons. Second, H. Jones, Dinton, Aylesbury. Highly Commended, E. Leach.

DUCKLINGS (Rouen).—First, E. Leach. Second, J. Nelson. Highly Commended, J. R. Rodbard.

GAME (Class 18, Black-breasted).—First, G. Owen, Park Issa. Second, J. Cooke, New Marton.

DORKING (Class 19).—Prize, E. Shaw, Plas Wilnot. Second withheld.

ANY AGE OR BREED.—First, E. Shaw (Spanish). Second, H. Yardley, Birmingham (Buff Cochins). Third, H. Crutchloe, Oswestry (Black-breasted). Highly Commended, H. Mason, Walsall (Black Spanish); J. Skinner, Newport, Monmouthshire (Silver-pencilled Hamburgs).

PIGEONS.—Carrier.—First and Second, H. Yardley, Birmingham. *Pouters*.—First and Second, H. Yardley. *Jacobins*.—First and Second, H. Yardley. *Turbits*.—First and Second, H. Yardley. *Owls*.—First and Second, H. Yardley.

EXTRA POULTRY.—First, Second, and Highly Commended, J. C. Cooper, Limerick (La Fleche, Crève Coeur, Houdan, Malay, White Geese, Grey Geese).

Edward Hewitt, Esq., of Eden Cottage, Sparkbrook, Birmingham, officiated as Judge, and expressed himself much pleased with the arrangements throughout.

WEIGHT OF HIVES FOR STOCKS.

Would you kindly inform me what weight a hive of bees ought to be to live through the winter, including a common straw hive and floorboard? Is 22 lbs. a sufficient weight?

I have taken one or two glasses of honey this year, and I do

not know how to close the hole in the top of the hive, as the bees have worked the comb up to a level with the top of the hive. Would it be a good plan to fasten a sheet of cork about half an inch thick over the opening? Would not the cork help to ventilate the hive? and will the bees thrive in the open air through the winter with only a pan or something of the sort for a covering.—G. H. B.

[We cannot possibly estimate the weight of the hive and floorboard which we have never seen. You, on the other hand, can readily do so by weighing an empty hive and board of similar thickness and construction. If the combs are new, a nett weight of 15 or 16 lbs. may be sufficient; if one year old, 20 lbs.; if older than this, 2 or 3 lbs. more for every additional year. We close the central apertures in the tops of our hives by simply covering them with a flat block of wood 4 or 5 inches in diameter, which the bees soon cement down. There is, however, no objection to the plan you propose. If the pan keeps the hive completely dry the bees will need no further protection.]

STORIFIED HIVES.

I REGRET that circumstances prevented my noticing at an earlier period your esteemed correspondent "J. E. B.'s" remarks at page 54 as to his storified colonies. My opinion coincides with the observation of Dr. Bevan as quoted by your correspondent, that "storified hives seldom swarm," and not with "J. E. B.'s" unfortunate experience, that "they almost invariably swarm in spite of every precaution." I cannot recollect of ever having had a swarm escape from a storified colony, peopled either with our old black favourites, or yet with the more prolific Italians, and, therefore, must look rather to your correspondent's manipulation than to the system for so undesirable a result. While making these remarks I am fully aware that possibly few storifiers may have had the like good fortune in this respect, as sometimes, although rarely, a swarm may emerge despite every effort on the part of the bee-master to prevent it.

I have not a doubt that "J. E. B." might easily have prevented the escape of swarms by a timely and large extension of breeding-space. It is quite a mistaken idea, often entertained by apiarians beginning storifying, that by the addition of a nadir or two, or at most nading with a second breeding-box, they may super on *ad infinitum*, and by adopting a fixed or at least a limited breeding-space, they can thereby compel the honey to be all stored in supers. The result invariably follows that swarms will escape, as in three out of the four of your correspondent's stocks, or it is as recorded by him of another denied the requisite accommodation below, "the queen got into the super and laid there a vast quantity of brood."

By providing ample breeding-space as required, it naturally follows that swarming is prevented, and from the larger population hatched out in this extended area of comb, supers will be more speedily and beautifully completed, free from either pollen or brood. I never attempt to keep bees on the depriving or non-swarming principle without allowing them at least three body boxes, or, in other words, a depth of breeding-space equal to 21 inches.

The plan alluded to by "J. E. B." of placing a shallow super over instead of under the filling one, has been attended with the best results since I adopted it in my own apiary, as well as in those of parties who at my suggestion gave it a trial. Take, for instance, the case of my friend "R. B., Greenock," who, although located in a town suburb, took off last year from one storified colony of black bees five octagon supers in succession, each weighing 20 lbs. nett, to which is to be added the upper seven-inch breeding box removed early in spring with 30 lbs. nett, giving a total nett weight of 180 lbs.; this, added to 94 lbs. taken from the same colony the preceding season, as reported by himself at page 478, Vol. VIII., gives a total yield of 224 lbs., exactly 2 cwt. from one colony in two consecutive seasons—a honey harvest, I am given to understand, yet unapproached with the most skilful manipulation on the clover fields of Ayrshire, and only equalled by a strong Italian colony of my own. This in a like manner gave me also five octagon supers, but on removing the upper breeding-box in spring, I found it so badly infected with foul brood as to necessitate my appropriating its entire contents, putting the bees through the "purgatorial process," and they have since prospered. Singularly enough this was the only colony bred off my Devon diseased stock which escaped contamination

at the time, although ultimately it thus showed itself; indeed, from its great strength and the ferocity of the workers, it was not thoroughly examined previously.—A RENFREWSHIRE BEE-KEEPER.

UNWELCOME VISITORS—LOSS OF SWARMS.

REFERRING to your remarks in page 234, I have measured my bee-hives by means of a wedge-shaped bit of wood, one of them very accurately, and the other as well as I could, and the result shows in each an entrance or bee-hole rather less than a sixth of an inch, so that my slugs must have been admitted very young into the community which they ruined.

I took a swarm this spring (my largest), in a way new to me, though, perhaps, not new to others. On Saturday (it is considerable of a parson's bees not to swarm on Sunday), an exceedingly fine swarm came out, and obligingly settled on a standard rose tree close to the bee-house. I hived them without difficulty into a straw hive 12½ inches diameter, 9 inches deep, inside measurement. The hive had a flat top fitted for super. On the following morning they were clustering outside, but apparently disposed to work. It was Sunday, and I stayed late in church, and when I came out I found that my gardener and "buttons" were scouring the country in pursuit of a swarm of the "parson's bees." I went to the hives and found an ominous stillness in the new one. Next morning I lifted it up, and discovered the floor strewn 2 or 3 inches deep with dead and dying bees, exuding honey, and all damp and sticky. I did my best to recover them by spreading them in the sunshine; but it was of no avail, and as the other half of the swarm that had taken wing on Sunday could not be recovered, I lost the whole. A few days afterwards I took another swarm in the same straw hive, and the new colony thrived throughout the summer. Was my hive too small for a fine swarm? And why did some fly away and others remain to die?—HAMPSHIRE RECTOR.

[In order to test the accuracy of your measurements we imprisoned about a hundred bees in a small box, in the lid of which were three apertures, each about 2 inches long, and exactly one-sixth of an inch wide. The result was precisely what we anticipated. After remaining some time in confinement the bees became much excited, and at length most of them succeeded in making their escape by forcing themselves, one by one, and with much difficulty, through the experimental apertures. We have, therefore, no doubt whatever that you are still in error, and that the height of the entrances to your hives is really more than you imagine. They seem, however, very likely to be too narrow, and this may in some measure account for the catastrophe to your Saturday's swarm, which evidently died from suffocation. The errant swarm of the following day we believe to have been a body of emigrants from another hive, and in its origin altogether distinct from the unfortunate colony, nearly the whole of which had probably perished miserably many hours before. The survivors which clustered outside may either have returned to the old stock or have cast in their fortunes with the runagates.]

BEEES IN STEWARTON HIVES.

I PURCHASED a hive of bees (a common skep) in August, 1865, from which a swarm issued June 3rd, at 8 A.M., and a second swarm June 30th, at noon. Prior to the swarms coming forth I had purchased an Ayrshire (Stewarton) hive with two supers. The two bottom boxes I hived the swarms in, and these both filled their respective boxes half full. On No. 1 swarm I put a super which the bees have nearly half filled with comb, but there is very little honey as yet. No. 2 swarm has not yet completed the box I hived it in, and I wish to know if it would be better to take the super off No. 1 a little later, and give it to No. 2.

The heather here is in full glory, but the rainy season, as it now is with us, prevents my little toilers from working much. I think I have not done so badly, as I have the parent hive and the two swarms, which I hope to keep through the winter, as I am having a shed made for their especial benefit. Will you kindly give me in your Journal the most approved method of managing Ayrshire hives, as I cannot find any mention of them in your Journal for 1866?—NOVICA.

[Neither of your swarms having filled its hive with comb, the probability is they are light, and will both require liberal feeding to bring them up to 20 lbs. nett, about the necessary weight

to carry them through the winter. Unless you are anxious to increase your stock, the most economical and the better plan would be to unite the two, so as to form one strong colony, which could be easily effected as follows:—At dusk invert No. 2, and sprinkle the bees with syrup flavoured with a little peppermint water, then treat No. 1 in a similar manner, setting it on the top of No. 2. The entrance of the former being entirely closed, and the slides of the latter all removed, their place being filled with short pags, an amicable union will in all likelihood be the result. This would be all the more certainly effected were each swarm fed the evening before, and a good puffing of tobacco smoke given to each when the slides were drawn.

Had you joined No. 2 on its issuing to No. 1, as above described, it is more than probable that both boxes would now have been fully combed with possibly something worth while in the super.

The honey season being about over, the partially-combed super had better be removed, and carefully wrapped up in paper to exclude the air, and kept in a dry place till the united colony seem pretty full next season, when it could be replaced, the bees admitted by drawing one slide only on either side, and a third breeding-box added underneath to prevent swarming, with additional supers placed above the first in succession as required.

The communication from our esteemed correspondent, "A RENFREWSHIRE BEE-KEEPER," which appears in another column, relates to the management of Stewarton hives, and will probably give you the information you require.]

DOUBLE-BODIED CHICKEN.—Early in May one of my hens hatched eleven out of thirteen eggs, and at night I removed her with her chickens, placing the other two eggs under another hen. In the morning I tried the eggs in warm water, and both danced about merrily, so I had great hopes of having a full brood, and outnumbering my poultry-woman, who in another yard had just had twelve out of thirteen eggs hatched. In the evening both eggs were "sprung," and on the following morning I found one chicken, so left the remaining egg a few hours longer. On taking it from the nest I knew its little inmate was dead; and, hoping I should see a poor little thing which I should have no cause to regret, I broke the egg, and found a fine chicken having one head and neck, two united bodies, with four legs and four wings. I dried it by the fire, it being clothed like other chicks; and being a curiosity I had it placed in spirits, and have it now in my possession. Possibly with a little assistance it might have managed to get out of its shell, but I fancy my chance of rearing it would have been very small. I may add the egg was a Dorking's, of the usual size, and in no way remarkable in shape.—B. B.

OUR LETTER BOX.

CHICKENS DYING (*Exelline*).—There is no prevailing disease among poultry. A chemist or medical man can tell you whether they are poisoned. About this time, and later, people are in the habit of dressing wheat for sowing with arsenic, and chickens often die from eating a few grains of it. Where fowls have, as yours have, all that is necessary for health, and yet die in numbers, we always look either for "wilful murder" or "accidental death." There are no "natural causes" for disease in such cases.

POULTRY CLUB SHOW (*An Exhibitor*).—You had better apply to the Secretary of the Club. We cannot give you the information.

FOWLS EATING APPLES (*J. M.*).—Apples, decidedly, are not injurious to fowls. If they were, a terrible poultry mortality would annually occur in the colder districts. Sudden death in fowls usually occurs from over-fatness.

CYGNETS (*Blame*).—We cannot tell you where you can find a purchaser for your Cygnets, but advise you to try an advertisement in our columns. It will not in any way prevent their sale if you cut their wings. We believe it renders them more valuable to pinion them.

PHOXONS (*M. A.*).—There are two Societies which you could join, the Philopeterston and the National Columbarian. Both hold shows in London.

COOKING SILVER BEET.—*Cousin Jackey* wishes to know how this should be cooked.

POULTRY MARKET.—OCTOBER 8.

THERE is a good supply, and a languid trade. The close weather has a great effect on the sale of inferior poultry.

	s.	d.	s.	d.		s.	d.	s.	d.
Large Fowls.....	2	0	2	6	Pheasants.....	2	6	2	0
Smaller do.....	1	9	2	0	Partridges.....	0	10	1	4
Chickens.....	1	6	1	9	Grouse.....	2	0	2	6
Geese.....	6	0	7	6	Hares.....	3	0	3	6
Ducks.....	2	0	2	3	Rabbits.....	1	4	1	5
Pigeons.....	0	8	0	9	Wild do.....	0	9	0	10

WEEKLY CALENDAR.

Day of Month.	Day of Week.	OCTOBER 16—22, 1886.	Average Temperature near London.			Rain in last 50 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.			
16	Tu	<i>Boeberia grandiflora.</i>	58.5	40.8	49.6	18	27	at 6	4	at 5	14	at 1	29	at 10	7	14	29
17	W	<i>Erica pulchella.</i>	58.5	41.3	49.8	17	29	6	2	5	51	1	30	11	9	14	30
18	Th	St. Luke.	58.3	41.3	49.7	18	31	6	0	5	25	2	morn.		10	14	31
19	F	<i>Erica cerinthoides.</i>	59.3	40.3	50.0	20	33	6	53	4	54	2	33	0	11	14	32
20	S	Sun's declination 10° 22' S.	59.5	40.0	49.7	17	34	6	56	4	23	3	47	1	12	15	7
21	Sun	21 SUNDAY AFTER TRINITY.	58.5	39.9	49.3	17	36	6	54	4	51	3	0	3	13	15	17
22	M	<i>Erica acuminata.</i>	59.0	42.9	50.9	22	38	6	52	4	30	4	18	4	14	15	26

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 58.9°; and its night temperature 40.5°. The greatest heat was 78°, on the 21st, 1881; and the lowest cold 20°, on the 21st, 1842. The greatest fall of rain was 0.96 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

VINE-BORDERS, AND HOW TO MAKE THEM.



VALUABLE papers on the construction of vineries have lately appeared in these pages, but as I have now commenced altering a range of old vineries a description

of the intended arrangements may be interesting to some readers who have similar alterations in view. This range of houses is in a very good state of preservation, although built many years; it has a lean-to roof, and is upwards of 90 feet long. It is 16 feet wide, and the front lights are about 4½ feet high. These I am having shortened to about 2 feet, for the purpose of giving greater depth to the inside border, which will not be less than 5 feet deep. This I consider an important point in the construction of a Vine-border.

Many will say that a border 3 feet deep is quite sufficient for the Vine to grow in; this may be so if the Vines are not intended to remain for a long time, but where they are, and are expected to produce fine Grapes year after year, there must be a greater depth of soil for them to grow in, and there is no doubt that if the border has been properly made, and the Vines treated with proper care, they will produce fruit quite as good in quality at thirty or fifty years old as they will at three, five, or eight. Mr. Meredith, the prince of Grape-growers, has proved by his recent success that Vines planted nine years ago can be made to produce Grapes superior in point of colour, size of bunch and berry, and general excellence to anything that has been brought against them at the metropolitan and other shows during the last three years, and it is well known that some wonderful examples have been exhibited from younger Vines which have been subjected to very high cultivation. The Vines above alluded to are not grown simply for the production of one or two fine bunches for exhibition, but each is made to produce an average crop of from seven to twelve bunches, and so far from the Vines showing any signs of exhaustion from age, their produce appears to be improved in quality every year as they increase in size. I hope soon to give a description of the vineries at Garston, including the large house which has been recently erected for the growth of young Vines, in which there may be seen growing at the present time upwards of two thousand young Vines in pots averaging 11 inches in diameter.

To return to the subject of my paper. For the purpose of shortening the front lights they have to be all taken out. The next proceeding is to prop up the front of the house securely, so that the wall plate may be removed and the uprights shortened to the same length as the lights. This being done, the wall plate will be raised, and properly secured to them. The whole of the front wall is to be pulled

down, and instead of building a continuous wall again I shall allow the front of the house to rest on 14-inch pillars placed 3 feet apart. The whole of the front lights will be made to open simultaneously with a lever and spindle. I consider the plan of opening every other light a very bad one. Every light should be made to open at once, so that the air may be regularly admitted all along the front of the house; by this means the whole of the impure air the house may contain is driven out at the top if the back lights are opened at the same time. This should always be attended to as early as possible in the morning, if only for two or three minutes. The whole of the back lights will be made to open on a similar plan to those in front. At present there is a walk along the back and front of this range of houses; the walk in the front will be done away with, and that at the back will be removed 4 feet nearer the centre of the house to allow of a four-foot border being made between the back wall and the walk, for the purpose of growing pot Vines for fruiting against the back wall. This will help to furnish a supply of Grapes whilst the permanent Vines are gaining strength and vigour, for I do not intend to allow them to bear a single bunch till the third year after planting. A good supply of Grapes can be had from the back wall during this time; fifty Vines can be grown against the back wall, and each will produce from five to seven good bunches. Thus, with a good stock of pot Vines in another house specially set apart for their culture, the required supply will be furnished till the permanent Vines are established, when Vine-growing against the back wall will be discontinued.

There are three divisions in the range—one will be planted with early Grapes, a second with Muscats, and the third will be occupied with late Grapes. At the end of this range will be built a new vinery 164 feet long and 20 feet wide, and which will consist of three divisions—one for second early Grapes, another for Muscats, and a third for late Grapes. The walk through the houses will be 4 feet wide, and this, with the 4 feet for the border between the walk and the wall, will leave a border 8 feet wide for the permanent Vines. These will be all planted inside, but far enough away from the wall plate to give room for one row of four-inch pipes; if the Vines be planted 15 inches from the front, and the row of pipes be placed as close to the wall plate as possible, there will be plenty of room for the Vine-stems to thicken without suffering any injury from the hot-water pipes. I consider it absolutely necessary that the pipe should be placed close to the front where the cold air is admitted into the house, so that the air may be warmed before it comes in contact with the Vine or its tender foliage. In arranging the pipes, care should be taken to have the pipe nearest the front the hottest.

There will be five rows of four-inch pipes in each of the houses, placed at equal distances over the surface of the borders, and all on a level with the front wall plate; the heat will by these means be regularly distributed all over the house, and by having the pipes mentioned above there will seldom be any necessity for having them very hot in each house. There will be six trough pipes, over which a lead pipe will be taken for the purpose of filling the

troughs with water when it is found necessary to charge the house with moisture. These troughs are also necessary to hold sulphur to guard against the red spider and mildew, and as soon as they cease to be required for evaporating-purposes they should be at once partially filled up with sulphur. Although there may be no appearance of either of the above pests, it is well to bear in mind the old adage, that "prevention is better than cure."

Having detailed the arrangement of the houses, I will now describe the process of making the border both inside and outside. After excavating the clay and rubbish to the desired depth, a number of nine-inch pillars will be built about 15 inches above the bottom; these are to support the large flags with which the bottom of the border will be covered. The border outside will be 12 feet wide; this will also be covered with flags the same as that inside, and at the front of the outside border will be two rows of four-inch pipes, of which the uppermost pipe will have a trough on it to be filled when necessary with water from a small lead pipe. The heat from these pipes will be shut in, and made to pass through the hollow chamber below the border; some ventilators will be placed at intervals of 3 feet along the front wall of the border through which air will be admitted to the house by means of an air-chimney, which will communicate with the main body of the house and the chambers below the borders when it is too cold to open the front lights. The water being turned at will into the troughs, a genial degree of moisture with a good current of warm air can be maintained in the house in the coldest day.

I am no advocate for heating Vine-borders by means of hot-water pipes placed directly beneath them; when the pipes are so placed they are sure to dry up the border for a foot or 18 inches above them, and for 2 feet to the right and left. If the border has been properly made, and plenty of good drainage placed in the bottom, the Vine roots are sure to make their way thither very soon after planting, and there is no doubt that the Vine thus derives much vigour, for we often find the most healthy roots amongst the drainage. If we turn out a Vine that has been growing in a pot we invariably find the most healthy roots at the bottom of the pot amongst the drainage; if, then, a hot-water pipe is placed anywhere near the mass of roots, which will certainly be found at the bottom of a well-made Vine-border, we may easily imagine what will follow; but by simply having the pipes placed in the front of the border, as described above, no harm can be done to the roots, and the air can always be kept in a healthy state.

The border being elevated above the bottom water will be prevented from standing near the roots, and the whole of the outside border will be covered with glass. The framework will be made in pieces, fixed together and kept in their proper places by means of little hooks. I have had it made in this way so that portions of it may be lifted off the border when not wanted, and easily taken for covering a bed of Strawberries, early vegetables, bedding plants, &c. I intend to have the whole of the border of the new range, described above, covered in this way, so that I can keep the roots from being drenched with rain and snow if necessary, and by taking off the cover over the pipes the 12-foot border can be made available for sheltering bedding plants, and for growing early Peas, Potatoes, and numerous other things in boxes. The whole of the 12-foot border in front of the range I am altering now will be used for similar purposes, for I shall not make any border outside for the first year. The spaces between the brick pillars which support the front of the range will be filled up with loose bricks, so that these may be easily taken out when it is found necessary to extend the border outside. There should, however, be a thin coat of mortar spread on the inside to prevent the roots from growing in amongst the bricks, also to prevent the air doing the roots injury from the outside.

After the flags have all been properly fixed I shall place over them a nine-inch layer of lime and brick rubbish, mixing with it a liberal quantity of bones broken into pieces varying in size from a quarter of an inch to 3 inches; then chopped sods, lime rubbish, boiled bones, and charcoal in layers of 9 inches or 1 foot in thickness. The whole of this should be well incorporated together, but the sods should not be chopped in pieces smaller than 3 or 4 inches square, and they should not be more than 2½ or 3 inches thick when they are first cut from the field. Before taking them the grass should be mown as closely as possible. When cut they should be set in rows on their edges for a week or two before they are wanted, so that they may be sweetened by the air passing freely through them.

This is a very important point to be borne in mind by every one who contemplates the formation of a Vine-border. Success often depends on paying proper attention to what are often termed minor, and by many useless, details. If the border be made when the sods are in a nice medium state of dryness, there is no fear of its ever becoming sour or unhealthy. Between each layer of the above description I shall place 2 inches in thickness of lime rubbish and boiled bones mixed in the proportion of about two-thirds of lime rubbish to one of bones. The border will be made in this way from the bottom to the top; each layer will be thrown on, and merely pressed down with a fork or spade, and no one will be permitted on any pretence to go on the border, for it must be allowed to settle gradually and of its own accord. The top layer will be composed of some good loam, which has been lying in a heap for six or eight months; to it will be added a liberal quantity of boiled bones, and a little well-decomposed stable-manure will be mixed with it in a healthy state. Over this a liberal sprinkling of raw half-inch bones will be given after the Vines are planted, but no manure of any kind will be used in the layers beneath; that in the top layer is only to encourage rapid root-action.

The whole of the details described in this article will be carefully carried out, and the future results I have no doubt will amply repay the trouble, and fulfil my most sanguine expectations.—J. WILLS.

CHRYSANTHEMUMS AND THEIR STAKES.

I HAVE occupied my leisure for the last fortnight in staking my Chrysanthemums, a process specially productive of two things—thought, and backache; it is with the former only that I wish to trouble you. My first thought and wonder was that the Chrysanthemum should be such a favourite in the metropolis and its environs, and still be so neglected in the country, which as far as my experience goes is certainly the case, for it really is a piteous sight sometimes to see the old plants left to grow on year after year without the slightest attention being paid to them, with their bare attenuated stems left either to the mercy of the winds or tied round the middle to one stake, which will persist in lolling sideways, making the plant look decrepid and woe-begone. Now, of all plants the Chrysanthemum comes to us at the most acceptable season, when it may almost be said to reign supreme, and although I must admit that its perfume is not of the most grateful kind, still its brilliancy and variety of colour far more than compensate for that one drawback. It is almost endless in its variety of colour, inexpensive as a rule, and the easiest plant to propagate we have in the garden, but to grow it well, as the Londoners certainly do, is another matter.

The method of growing this plant well has been so frequently described that it would be useless here to introduce it at length; one or two hints, however, I will venture to suggest. Take the cuttings as early as possible from the young shoots, and having struck and potted them off into separate pots, they should be allowed to become thoroughly established before the process of pinching is commenced. When, however, you do pinch, pinch boldly, and when the laterals have shot out from the first pinching give them time to gain strength before you pinch them; from this time the pinching must be regulated by the shape of plant you desire. The plants must never be allowed to know what drought is, or all their leaves will turn yellow and fall; and it must be remembered that the Chrysanthemum is a hungry as well as a thirsty soul, and rejoices in liquid manure, but I never give my plants any till they have finished their growth and have commenced to form their flower buds, and then I give it liberally, taking care not to touch the leaves with it.

A word now as to stakes. I have never liked painted wood, and a solid square, or more generally circle, of unpainted deal stakes is my abomination; so when I use deal stakes at all, I stain them with oak staining, which is a quick and inexpensive operation, perfectly innocuous to the plants, and decidedly more subdued in appearance than either of the other forms. The best wooden stakes I know are the twigs of the Blackthorn cut when the leaf falls, trimmed, and tied tightly in bundles, to be left through the winter to dry. The stakes do not warp, and the little notches on them not only help to take off their lank appearance, but serve as an excellent holdfast for your best in training. The stake, however, that I specially wish to advocate the use of is galvanised iron wire, which I procure of various lengths and thicknesses, and, after having used it for five years to stake my Chrysanthemums, Picotees, and all perennials, I can confi-

dently recommend it as cleanly, neat, durable, and in the end cheap; it might be well applied in the bent form as a support for Hyacinths, or used for pegging Verbenas or layering Picotees. For the latter purposes I use thin wire, and after bending it, stick each end into the pith of short lengths of willow twigs, which serve to hold it fast in the soil.

I fear most of these thoughts of mine are trite and sticky, but some may gain a hint or two, and if so they will not be useless.—H. P.

THE POTATO DISEASE.

OBSERVING your remarks to your correspondent, "A. R.," in relation to the Potato disease, I wish to state my opinion on the subject, and though substantially differing from you, I trust you will give my remarks a place.

For some years I have particularly observed that when we have a good Mushroom season, we have also an excessive quantity of diseased Potatoes; but when the season is unfavourable to the Mushroom, we have little or no disease—that is, when Potatoes are planted in a favourable situation, and at the proper time. I more particularly refer to the later varieties.

I am of opinion that the fungus is generated in the atmosphere. To illustrate this, two years ago last July I gathered a fine crop of sound Ash-leaf Kidney Potatoes, out of which I selected a number for seed, and laid them on a south border to green; when examining them about the middle of August, I was astonished to find one-half of them diseased. This, I consider, was occasioned by their being exposed to the atmosphere in which existed the Potato fungus.

This year I have a fine crop of Tomatoes growing on a south wall, one-half of which is affected with the Potato disease (you say Tomato and Potato blight are not identical). To satisfy myself, I selected eight perfectly sound Potatoes out of a lot of that excellent second early variety, "The King," which was stored away in a dry fruit-room, and spawned them with the fungus taken from an affected Tomato, after doing which, I placed the eight tubers in different aspects, some outside partially exposed to the atmosphere, and others in the fruit-room. All the tubers so treated were affected with the disease within eight days, those placed outside very badly, while those in the fruit-room were attacked with less virulence, on account, no doubt, of the dry atmosphere of the room.

In conclusion, I will state my experience as to the best method of preventing the Potato disease. About the middle of August last, I planted a quarter of ground with Flukes, the sets being of the soundest character. One-half of these rotted in the ground, and what did grow were of a very weak constitution. To fill up the vacancies caused by the failures, in the first week of June I planted some small sets of the same Flukes, which had been lying in the fruit-room, in a very high temperature. The sets resembled shrivelled Pears; notwithstanding that, the plants from them came up with great vigour, which they maintained throughout the season. I took up the crop thus planted on the 25th of September, when I found that every Potato planted in June produced from six to eight large, sound Potatoes, except two or three which were partially exposed to the atmosphere; whereas the April-planted sets produced nothing but poor and diseased Potatoes, only fit for pigs.—JOHN SORLEY, Gardener to Mrs. Zwilchenbart, Roselands, Aigburth.

[So far from refuting what we stated to be our opinion relative to the Potato disease, we consider that Mr. Sorley's experience confirms it. A wet, mild autumn is favourable to the production of Mushrooms, and would, as many have testified, promote the appearance and development of the fungus in the "later varieties," to which Mr. Sorley refers. Our opinion referred to earlier varieties stored before the autumn arrived.

Greening Potatoes by exposure to the atmosphere has been advocated by many practical men as a preventive of the disease; but whether it is so or not, quite certain it is that no fungus is "generated" in the atmosphere. All fungi are produced from germs of some kind, and the atmosphere may convey these to the Potatoes, but the most probable course of events is that the embryo fungus being present in the Potato, exposure to the vicissitudes of temperature and moisture promotes the development of the fungus.

Wounding the tubers and introducing morbid matter from the Tomatoes would produce an ulcer in the tubers especially favourable to the development of the Potato fungus, but does not prove that this is identical with the fungus of the Tomato. The microscope alone can determine that; and from what we know of the two we conclude that they are different genera.

Using dried sets was recommended long since as a preventive of the Potato disease. We once had our best crop of Potatoes from sets planted either at the close of June, or early in July; but late planting as a rule is to be avoided.

We hear of the disease being prevalent in many places, but exclusively among the late crops. A sample of an earlier crop grown near Barnet, has just been shown to us, surpassingly excellent in condition and size, one tuber weighed 1 lb. 7 ozs., another 1 lb. 9 ozs., and the third 2 lbs. 11 ozs. !]

CONIFERÆ AT LINTON PARK.

I AM glad that Mr. Kent has directed attention to some fine Conifers which exist at Piltown, near Maresfield; and I am sure he, as well as others, will feel interested in reports from different places as to a class of plants, respecting superior specimens of which information is always read with interest. When many of the species were introduced the number of the purchasers of novelties was much smaller than at present; but those who secured them at that time, and were favoured by a suitable situation and climate, are now rewarded by the size and beauty of their specimens.

Amongst private growers who early gave their attention to the cultivation of Coniferæ, perhaps none was more enthusiastic than the late Lady Grenville, whose pinetum at Dropmore has been heard of far and wide, and I believe several of the specimens there are not approached by anything of the kind in the kingdom. Fancy an *Araucaria* nearly 50 feet high, a *Deodora* of nearly 90 feet, a *Deodar* 50 feet high, a *Pinus laricio* 68 feet, and *Pinus excelsa* and *ponderosa* each about 60 feet high, with others not less remarkable. These specimens leave most others in the shade; nevertheless, now and then a tree is found to equal or exceed the Dropmore standard, and I am told that a better *Picea pinsapo* exists at a place in Cornwall, and some years ago I saw an excellent *Abies Douglasii* growing at Brechley in Kent. I believe that there are also good specimens of most of the early-introduced Conifers at Bayfordbury, in Hertfordshire, and I think as good specimens as those Mr. Kent enumerates as growing at Piltown are to be met with at Bury Hill; while Mr. McDonald, at page 165, mentions the finest specimen of *Cupressus macrocarpa* which I have heard of as existing at Woodstock in Ireland. Some years ago, I may remark, I saw in Northumberland a very fine *Araucaria* upwards of 30 feet high. That certain species may prosper at one place and not in others is easy to conceive, for it is most unlikely that plants brought from the two extremes of the globe should alike succeed in the same spot; the wonder is that they do so well. It cannot, however, be denied that some species will not thrive at one place and succeed well at another, as, apart from important differences in the atmospheric conditions, there are those of soil; and if particular notices were taken, some of the species might be found lacking that robust health which they could only exhibit in a situation different from that which they occupy. Such I find to be the case here, at Linton, where we have excellent examples of many of the finest species, yet some of them individually afford unmistakable tokens that the place does not suit them.

In the following notes I purpose giving some details respecting a few of the most notable coniferous trees growing here; and it is further necessary to premise that the measurements were taken last December, so that in most cases 2 feet or more may be added for the growth of the present year. As each tree was measured in the same month five years previously, the progress made in the interval is also stated.

ARAUCARIA IMBRICATA, 80½ feet high and 20 feet in diameter, has grown 3½ feet in the last five years. This tree does not present such a picture of robust health as it did some years ago, some of the lower limbs showing brown foliage, and the branches nearest the ground for about 5 feet are gone, but those above that height hang down and sweep the surface. On the whole the appearance of the tree is good, the outline being more that of a cylinder than of a cone with a rounded top. The upper and greater part of the branches is healthy and fine. The tree is much admired. Last year it produced three cones, which when growing were highly ornamental, being globular, with projecting spines, forming a ball as large as a hedgehog. The seeds, however, were not perfected. This season there are several more cones forming, but being much later than last year there is less hope of their succeeding. Several other fine trees, from 15 to 18 feet high and upwards exhibit different habits of growth and different degrees of health.

according to the situation in which they are planted. A rather deep soil, not too dry, seems to suit this tree best.

ARAUCARIA BRASILIENSIS, 25½ feet high and 18 feet in diameter, having grown 5 feet in the last five years. This tree, however, is not at home, and is evidently too tender for cultivation out of doors. It is better fitted for a conservatory plant. I have never seen it do well out of doors except at Redleaf, near Tonbridge, and there I believe it is not looking so well now as formerly. In the mildest parts of Cornwall and South Devon perhaps it will succeed better; and I think it is prospering pretty well at Mount Edgcumbe, near Plymouth.

ABIES MORINDA OR **SMITHIANA**, 35 feet high and 21 feet in diameter, having grown 8½ feet during the last five years. There are several other trees about 80 feet high, all in excellent health, and presenting less diversity of form and appearance than most of the kindred species. The usual outline is cylindrical for the first 6 feet or so upwards, and conical afterwards. The habit is dense, and not much broken by projecting portions of the growth. Some of the trees are producing beautiful cones of a rich green colour, pendulous, and somewhat longer than those of the ordinary Spruce Fir.

ABIES DOUGLASSII.—I only mention this to show that the situation favourable to many other Conifers is not so to this, as we have not a good specimen. One or two of the early-planted trees, having fallen into bad health, were removed some years ago; and more recently our best specimen, of recent planting, met with an accident. Nothing, however, can exceed the beauty of this species when in good condition, and the noble examples of it existing in different parts of the country testify to its adaptability to most situations.

ABIES CANADENSIS (Hemlock Spruce).—Several fine trees show, by their deep green foliage, that the site, a tolerably dry one, suits them.

ABIES MENZIESII.—I have some doubt as to the Spruce which we have here under this name being the true one.

ABIES KEMPFERII.—I fear it is hopeless to expect much of this plant, as one we have had three or four years is barely 2 feet high, and scarcely makes any progress; otherwise, if it could be coaxed to grow as fast as some of the family, its thick fleshy leaves, resembling those of some of the Mesembryanthemums, give it a peculiar distinctness.

CEDRUS DEODARA, 37 feet high, and 30 feet in diameter; it has grown 7 feet in the last five years. Different individuals exhibit considerable diversity of character, so much so, that the question sometimes arises whether they really all belong to one species, as some have almost lost that glaucous hue which characterised their growth when in a younger state, and even the pendulous habit seems to become yearly less marked, so that the opinion entertained by some great authorities that the Deodar and the Cedar of Lebanon will eventually merge into one, is likely to be realised. Here we have plants which in winter might be said to belong to the latter species, although in summer their young growth is pendent, and less stiff; but these differences seem to become less as time goes on. Several years ago I remember seeing, I believe at Elvaston Castle, Derbyshire, some Deodars which had been grafted on the top of the Cedar of Lebanon, the stock being some 6 feet or more high, and allowed to branch out as well as the Deodar, and the difference between the two at that time was marked enough; but as it was during the growing season that I saw them, I could not form any opinion as to their form in winter. At this place, however, there is a specimen having a top like the Cedar of Lebanon, and the lower part like the Deodar, a most unlikely union, as the tree is upwards of twenty years old, and I cannot discern any trace of its having been worked. The fact is, that the tree is becoming less robust than before, and the growth on the upper part, not being so free as below, soon settles itself into the stiff, rigid form of the Cedar of Lebanon, with its dark green hue. Other trees seem to be more gradually undergoing the same changes, and several of them show signs of bearing cones exactly in the same way as the Cedar of Lebanon.

In form these Deodars perhaps vary more than any other tree, some forming a dense, broad-bottomed cone, whilst others have the appearance of a slender, tapering Larch. One specimen upwards of 30 feet high has scarcely a branch more than 4 or 5 feet long, and these very thinly scattered on a pretty straight stem, whose leader each year never hangs down in the same manner as those of Deodars generally, but curves a little to one side; the foliage is stiff and bristly, of a dark green, the tips only of the young growth showing relationship with the Deodar, but in autumn these harden into the condition of a Cedar of Lebanon. This tree has not been drawn up by

being in contact with any other, as it stands clear, and the contrast is the stronger, as there is a plant near it of an exactly opposite description, being 35 feet high, nearly 80 feet in diameter, feathered to the ground, and so dense that it is vain to look for the bole without pushing aside the branches. This tree has the rich glaucous hue of what is said to be the true Deodar, and the shoots are drooping, and for the most part continue so during the winter. Some will say that one is a seedling, and the other a plant from a cutting; but I hardly think a cutting would grow so upright as the slender tree does, and the branches though few and far between, do not show the distorted condition of some trees which I have seen, that were evidently obtained by cuttings or working. None of the cones have come to maturity yet, so that farther comparison cannot be made with the Cedar of Lebanon; but those who doubt the near relationship these two have to each other might find themselves puzzled on examining the trees here, especially in winter.

CEDAR OF LEBANON AND SILVER CEDAR.—Representatives of both, about the same age as the Deodars, are growing in a similar position to these, and though there is no marked difference in the Silver Cedar, the ordinary Cedar of Lebanon exhibits much diversity of form. One, a fine healthy tree 45 feet high, has very much the upright growth of a Silver Fir, the spread of branches not being greater than that tree often acquires, while other Cedars are very much broader than they are high. The branches stand out at right angles, rigid except at the tops, which are gracefully feathery, and there is a great number of tops all striving for the mastery, and all on nearly equal terms, forming a dense, broad, tabular head, characteristic of the Cedar of Lebanon. The trees are in robust health, and are likely to attain a large size. There are, however, differences in their habit of growth not easy to describe, showing that in the course of a long series of years the change may have been effected from the normal type of this Cedar to that of the Himalayan Deodar.—J. ROSSON.

(To be continued.)

HORTICULTURE ON THE CONTINENT.

THE following details of the 1867 Paris International Exhibition, which relate to horticultural objects, are now officially given us:—

1st SECTION.—TO OPEN APRIL 1st.

No. of Classes.	No. of Classes.
11. Camellias.	4. Hardwooded plants (open ground).
4. New stove plants.	1. Early Tulips.
2. Stove plants raised from seed on the Continent.	1. Crocuses.
8. New greenhouse plants.	1. Lillacs.
4. Ditto ditto raised from seed on the Continent.	1. Roses.
4. Orchids.	8. Miscellaneous shrubs.
4. Bromellads. } Stove.	2. Miscellaneous new plants.
6. Ferns.	2. Pine Apples.
6. Heath.	4. Fruit trees and fruits.
2. Acacias and Mimosas.	1. Melons.
8. Ferns.	1. Strawberries.
4. Amaryllis.	1. Cucumbers.
2. Cinerarias.	1. Vegetables.
4. Primula sinensis.	1. Preserved fruits.
2. Daphnos.	2. Pear trees.
8. Cyclamens.	2. Apple trees.
1. Wallflowers.	2. Peach trees.
6. Miscellaneous.	2. Cherry trees.
4. Hollies.	1. Vines.
8. Magnolia grandiflora.	4. Plum trees.
8. Yuccas.	2. Apricot trees.
1. Ivies.	1. Miscellaneous trees.
	1. Tall standards.

2nd SECTION.—TO OPEN APRIL 15th.

No. of Classes.	No. of Classes.
12. Ornamental Conifers.	1. Cinerarias (greenhouse).
2. Conifers, essentially forest trees.	2. Perennial herbaceous plants.
4. Plants with ornamental foliage.	2. Hyacinths.
1. Orchids.	2. Pansies.
10. Cactuses.	8. Polyanthus.
3. Selaginellas and Lycopodium.	2. Wallflowers.
4. Agaves.	2. Deciduous Magnolias.
2. Aloes.	2. Standard Roses.
2. Dasylictrons and Bonapartes.	2. Dwarf Roses.
1. Yuccas.	2. Miscellaneous new plants.
2. Rhododendrons.	1. Melons.
2. Eperisces.	1. Strawberries.
2. Ericas.	1. Asparagus.
	1. Cucumbers.
	2. Miscellaneous vegetables.

2ND SECTION.—To OPEN MAY 1ST.

No. of Classes.	No. of Classes.
8. Azalea indica.	1. Fancies.
8. Rhododendron arboreum.	1. Auriculas.
4. New plants (any kind).	1. Ten-week Stocks.
4. Plants in flower (any kind).	1. Mignonette.
2. Orchids.	1. Dwarf Gladioli.
2. Plants for decorating rooms.	2. Miscellaneous new plants.
2. Ixias and Sparaxis.	1. Asparagus.
2. Tree Paeonies.	1. Mushrooms.
2. Herbaceous Paeonies.	1. Miscellaneous vegetables.
2. Standard Roses.	1. Melons.
2. Dwarf Roses.	2. Vegetables.
2. Clematises.	4. Fruit trees and fruit.
1. Pendent plants in baskets.	8. Pine Apples.
8. Tulips.	

Forced.

4TH SECTION.—To OPEN MAY 15TH.

No. of Classes.	No. of Classes.
11. Palms.	1. Tea Roses (standards).
5. Cyads.	2. Dwarf Roses.
2. Orchids.	4. Hardwooded plants.
2. Ixoras.	2. Perennials.
4. Azalea indica.	2. Annuals.
4. Calceolarias.	8. Paeonies.
1. Market flowers.	1. Tree Paeonies.
1. Rhododendrons (Himalayan)	1. Ranunculuses.
1. Auriculas.	1. Anemones.
1. Rhododendrons (open ground).	1. Daisies.
5. Azaleas (open ground).	2. New plants.
2. Kalmias.	1. Forced fruits.
2. Clematises.	2. Hothouse Grapes.
1. Standard Roses.	3. Vegetables.

5TH SECTION.—To OPEN JUNE 1ST.

No. of Classes.	No. of Classes.
9. Orchids.	2. Hardwooded plants.
8. Show Pelargoniums.	1. American plants.
5. Fancy Pelargoniums.	6. Rhododendrons.
4. Miscellaneous stove plants.	4. Azaleas.
4. Plants with ornamental foliage.	1. Kalmias.
5. Caladiums.	2. Standard Roses.
1. Greenhouse plants.	4. Dwarf Roses.
2. Calceolarias.	1. Climbing Roses.
4. Verbenas.	5. Cut blooms of ditto.
2. Annuals.	2. New plants.
2. Perennial herbaceous plants.	1. Melons.
8. Chinese Paeonies.	3. Vegetables.
1. Carnations.	8. Forced fruits.

6TH SECTION.—To OPEN JUNE 15TH.

No. of Classes.	No. of Classes.
4. Standard Roses.	4. Verbenas.
5. Dwarf ditto.	1. Calceolarias.
1. Climbing ditto.	1. Perennials.
4. Roses (cut blooms).	1. Annuals.
4. Pandanus.	2. Delphiniums.
4. Show Pelargoniums.	2. Irises.
3. Fancy ditto.	2. Stocks.
3. Zonale ditto.	1. Native Orchids.
4. Orchids.	2. Alpine and mountain plants.
3. Theophrastus and Clavijas.	2. New plants.
5. Marantas, Calatheas, and Phryniums.	8. Paeonies.
3. Musas.	1. Tree Paeonies.
3. Begonias, distinct species.	8. Miscellaneous vegetables.
3. Varieties of ditto.	1. Cut Bananas.
2. Orange and Citron trees.	2. Cherries.
	4. Strawberries.

7TH SECTION.—To OPEN JULY 1ST.

No. of Classes.	No. of Classes.
7. Zonale (Inquinans) Pelargoniums.	1. Amaryllises.
4. Variegated Zonale ditto.	1. Lilium auratum.
2. Pelargoniums, distinct species (types).	1. Herbaceous perennials.
5. Tree Ferns.	1. Annuals.
2. Medicinal plants from the tropics.	1. Herbaceous plants with variegated leaves.
2. Orchids.	4. Ferns.
2. Nepenthes.	2. Delphiniums.
2. Gloxinias.	1. Mignonettes.
2. Caladiums.	2. Hollyhocks.
2. Petunias.	4. Roses (cut blooms).
1. Rocheas.	2. Any new plant.
1. Crasulac.	8. Any new vegetable.
1. Sarracenias.	1. Mushrooms.
	8. Cherries.
	8. Strawberries.

8TH SECTION.—To OPEN JULY 15TH.

No. of Classes.	No. of Classes.
4. Finks, Carnations, Picotees, &c.	4. Petunias.
2. Ditto Perpetuals.	1. Perennials.
2. Forced vegetables.	2. Annuals.
2. Exotic trees and fruits.	2. Phloxes.
2. Gloxinias.	8. Pentstemons.
4. Lantanas.	8. Onnias.
	8. Hollyhocks.

8TH SECTION.—Continued.

No. of Classes.	No. of Classes.
8. Gladioli.	2. New plants.
9. Delphiniums.	4. Stone fruit trees.
3. Phlox Drummond.	8. Berry-bearing fruit trees.
1. Alströmarias.	3. Melons.
8. Hydrangeas.	8. Vegetables.

9TH SECTION.—To OPEN AUGUST 1ST.

No. of Classes.	No. of Classes.
6. Fuchsias.	2. Zinnias.
4. Gladioli.	2. Lobelias.
8. Exotic climbers.	2. Tropaeolums.
2. Passion-flowers.	8. Hydrangeas.
4. Heliotropes.	2. New plants.
1. Phylla ericoides.	8. Pomaceous Fruits (Apples, Pears, &c.).
8. Dahlias.	4. Stone fruits.
1. Perennials.	8. Berry fruits.
2. Annuals.	2. Early Grapes.
8. Carnations, &c.	1. Peaches.
8. Hollyhocks.	8. Miscellaneous vegetables.
8. Phlox decussata.	
2. Lilies.	

10TH SECTION.—To OPEN AUGUST 15TH.

No. of Classes.	No. of Classes.
12. Aroids.	8. Double Zinnias.
1. Orchids.	2. Annuals.
8. Gesneras.	1. Lilies.
3. Achimenes.	4. Gladioli.
1. Nagelias.	1. Native Heaths.
8. Fuchsias.	2. Exotic aquatic plants.
4. Erythras.	1. Indigenous aquatic plants.
2. Zonale Pelargoniums.	2. New plants.
2. Pendent plants.	3. Vegetables.
2. Perennials in bloom.	1. Melons.
2. Dahlias.	8. Pomaceous Fruits (Apples, Pears, &c.).
2. Hollyhocks.	3. Stone fruits.
8. Pentstemons.	8. Peaches.
1. Phloxes.	2. Grapes.
2. Carnations, &c. (perpetual).	1. Figs.
4. China Asters.	
8. Balsams.	

11TH SECTION.—To OPEN SEPTEMBER 1ST.

No. of Classes.	No. of Classes.
7. Dahlias.	1. Gladioli.
4. Dracenas and Cordylines.	2. New plants.
8. Crotons.	8. Vegetables.
2. Allamandas.	8. Pomaceous Fruits.
2. Fuchsias.	8. Stone fruits.
2. Veronicas.	1. Peaches.
2. Zonale Pelargoniums.	8. Grapes.
1. Perennials.	2. Figs.
1. Chinese Pinks.	8. Pines.
2. Annuals.	8. Deciduous forest trees (easy growth).
2. China Asters.	8. Shrubs suitable for abrupt slopes and bare situations.
1. Balsams.	
2. Cut blooms of Roses.	
1. Tea Roses.	

12TH SECTION.—To OPEN SEPTEMBER 15TH.

No. of Classes.	No. of Classes.
4. Aralias.	8. Cut blooms of Dahlias.
2. Large-leaved stove plants.	1. Early Chrysanthemums.
4. Cannas.	1. Asters.
4. Solanums.	8. Gladioli.
4. Fig trees and Artocarpus.	1. Cut blooms of Roses.
2. Hibiscus sinensis.	2. Any Bambusa.
2. Musas.	1. Annuals.
2. Fuchsias.	8. Vegetables of any kind.
1. Zonale Pelargoniums.	7. Grapes.
1. Hardy perennials.	2. Pomaceous Fruits.
1. Ornamental Grasses.	

—(Translated from *Revue Horticole*).—T. C. BRÉHAUT.

SCARLET BEDDERS.

I SEE in the Journal of the 2nd inst. that a correspondent, "F.," speaks of the Scarlet Runner as a bedder. I think it will look very well, but the trouble of picking off the pods and disturbing the bed or ribbon-row will be a drawback against it. Nevertheless, every one has his fancy, and why should not "F." have his?

Speaking of plants for beds or straight rows, I happened to call at Felton Park gardens, in Northumberland, a few days since, and there I found such a scarlet for beds or borders as I had never before met with. It was the finest scarlet Dahlia I had ever seen. The gardener told me he had three hundred plants of it, and not one had a stake to support it. Each was clothed to the ground with most beautiful foliage, and the blooms very large. I am certain this is of the finest of ribbon plants.

Mr. Crossling tells me it is a seedling of his own, and entirely

in his hands. The plants have at present thousands of blooms on them. He has one row 126 yards long, and if a line were stretched from end to end it would touch every plant. He had a bed of it in front of the house, and out of forty-five beds it was the best. I forgot to ask him if he intended to send it out in the ensuing season.—T. ROBSON, *Durham*.

VISITS TO GARDENS PUBLIC AND PRIVATE.

MR. JOHN KEYNES, SALISBURY.

FIVE and thirty years had passed since I had seen the fair tapering spire of Salisbury Cathedral, for the city lay in the old mail coach route from Chichester to Bristol; and with all the mad spirits of one just escaped from the drudgery of school life, and looking forward to the enjoyment of a good long summer holiday, I remember how eagerly we looked forward for each place that brought us nearer to the port whence we were to embark for the Emerald Isle. Oh, how lightly care sat on us then! How bright all life seemed! How soon forgotten the perplexities of syntax, the inflection of Greek verbs, or the puzzles of French irregularities, in the prospect of home! And as I entered the city that bright August morning (one of the few bright ones we had this year in that generally fine month), could I but think of the changes those years had wrought? Now I visited the old city on grave business, and I determined when that business was over to pay a long-threatened visit to Mr. Keynes. I had not been able to arrange it previously, and so I did not find him at home. This was a grievous disappointment to me. His foreman, Mr. Gill, however, did his best to remedy the grievance, and I had a good leisurely stroll through this celebrated nursery.

Yes, celebrated nursery, for it is such in the thoughts of all lovers of floriculture. Who that grew a Dahlia did not know John Keynes? and who that grows a Rose does not know that the Salisbury nursery sends to our metropolis yearly noble collections of that favourite flower? Who has not watched the close running that there always used to be between Slough and Salisbury in the Dahlia race? and yet, to their honour be it spoken, what good friends both competitors were! No one else could come near them: and now that Mr. Turner no longer exhibits, Mr. Keynes has nought to do but go in and win. Although no longer a Dahlia-grower myself, I still take an interest in that noble autumnal flower, and am sorry to find that it, too, is suffering severely from the bedding-out mania, before which nothing seems to be able to stand. Well, perhaps there will be a revulsion in some of these things, and many a despised flower will come into favour.

The glass is not, as might be supposed from the character of the nursery, very extensive; but I can safely say that, many as are the houses of Grape Vines which I have seen, I have nowhere met with a finer, and in few places so fine, a stock of fruiting Vines as here. They comprised a very large number of that universal favourite, the Black Hamburgh. Muscat Escholata, a fine Grape, was largely cultivated, as was also Tynningham Muscat; while in another house there was a large quantity of Roses in pots. I saw amongst those planted out Climbing Devonensis, which was budded in March, and had a shoot 16 feet long. It is a remarkable instance of the effect of stock on a Rose, for I suppose that is the way in which it has originated. I have it in my own garden with shoots 16 feet long, and the flower does not, as is sometimes the case, seem to be altered by the change that has taken place in the habit of the plant.

It will be remembered that Mr. Keynes sent out a collection of Verbenas this year, raised by Mr. Eckford. Unfortunately, they had been planted in a piece of ground quite unsuited for them, and had done very badly; but I thought King Charlie and Mr. Gladstone good varieties. Methven's Crimson King also promised well, as if it would really be what it is said to be—a good bedder. Verbenas, however, have this season lost much favour, owing to their being so easily and so seriously affected by the weather.

The river Avon flows at the end of Mr. Keynes's grounds, and this gives him great facility for watering his Dahlias, which are thus preserved from that terrible little scourge thrips, which proved so fatal to Mr. C. Turner's collection. Dahlias were, however, not in bloom. The plants looked splendid, but there was a lamentation over the falling off in support, owing to the bedding mania.

I now placed myself under the convoy of Mr. Gill, whom I had often met at the scenes of his victories in London, and

who had a pardonable pride in showing the fine, nay, splendid collection of Roses under his able care. His judgment in most points coincided with my own, but more of this anon. He first brought me to a new piece of ground, which was, and indeed is still underneath, very boggy, but on which for a number of years the refuse from the city of Salisbury has been placed to the depth of nearly 20 feet. It may easily be imagined what richness there was in it, and it would not be surprising that briars planted in it should be vigorous, but there was certainly the most wonderful growth. I then saw a large piece of Manetti, all looking well, a fine piece of standards, amongst which glorious Maréchal Niel was in splendid perfection. Any one who has had any doubts as to the value of this Rose might have them all set at rest by seeing it here. There were no bell-glasses, there was no coddling, and yet here were hundreds of buds in all stages, some fully opened, others only half-expanded, and some just showing their rich golden hue. Few persons know what may be done with a Rose in the way of increase; I confess I did not until I had a conversation with Mr. Gill about it. He said that Mr. Keynes bought two sets of Eugène Verdier, and with them he received two of Maréchal Niel; from these two plants in the first season he budded 450 in pots, and 750 in the open ground; of these all were sold except twelve. From these, first 1250 plants, and then 2700, were made, and I venture to say that by-and-by Mr. Keynes will not have one left, so great is the demand for it. Of another fine Rose, one of the finest of last season, Alfred Colomb, there were 1250 budded plants; and these facts will just give an idea of the extent to which successful Rose-growing is carried.

Joseph Fiala appears to be a great favourite here, and it has appeared *en grande tenue* in some of Mr. Keynes's exhibition stands. Madame Canrobert (can any who saw it forget the bloom of this at the National this year?) was also very fine; it is a lilacy white, if I may use such an expression, and is another instance of a Rose passed by in the earlier days of its existence, but coming into notice by sheer merit. I have no doubt it will be largely asked for this year. Madame Vigneron was another Rose of which Mr. Gill thought well; my own acquaintance with the fair lady is of a very limited character. Jean Rosenkrantz, which I see is now excluded from some lists, I saw here very good, but the colour is not very remarkable. Dr. Andry is (I have already expressed my opinion of it), a first-rate Rose, a conclusion which Mr. Gill quite confirmed, some blooms of it here fully justifying his opinion. Madame Rousset was another flower of a beautiful bright rose colour, somewhat in the style of Anguste Mie, full and fine in form, and a very profuse autumn bloomer. Madame Moreau is a great favourite here, and was in good flower. Many will remember the excellent stand of it shown by Mr. Keynes at the National. Again, there was Hippolyte Flandrin, perhaps not so vigorous in its growth as some others, but a very fine Rose, and one which will be a general favourite. Rushton Radclyffe is, I fear, unworthy of the name it bears, a fine flower unquestionably, but weak in habit—so much so, that Mr. Keynes has ceased to propagate it. Some English raiser must raise a good-habited plant, and call it Okeford Fitzpaise Radclyffe; it would be a Roland for an Oliver for some of those terrible names they give on the other side of the Channel, such as Triomphe de la Terre des Roses, or Souvenir de Bernardin de St. Pierre. Jean Cherpin was another Rose pronounced to be good; and Marguerite Dombain and Joséphine Beauharnais were considered fine new Roses. As to the older varieties they were here literally by thousands, and a finer set of plants it was never my lot to see.

I have now, for the present season at least, done with the Roses that came out this spring, and shall anxiously wait to see what confirmation, or otherwise, of one's opinion next season will give. Already the accounts of the French raisers for another season are published, and I hope in a week or two to give my opinion about them. I do not, however, imagine it will be an extraordinary year for novelties.

After having made my tour of the nursery I went over to Wilton, saw its church, but had not the opportunity of seeing the grounds, which I am told are very good; the gardener was absent, or I might have done so. I was unfortunate in not seeing Mr. Keynes, but at some future time promise myself the pleasure of going over his grounds with him. In the meantime he will no doubt be winning fresh honours, but he cannot attend himself; he cannot do more than he did this year at the Crystal Palace—win five first prizes. He grows, doubtless,

under many advantages, and this, combined with the skill and attention bestowed, secures the grand results which he has accomplished.—D., *Deal*.

ROYAL HORTICULTURAL SOCIETY.

WEEKLY SHOW, October 13th.—Mr. Young, gardener to R. Barclay, Esq., of Highgate, sent a good collection of Apples and Pears, and an excellent collection of vegetables, for which he severally received extra prizes. Mr. Carr, gardener to P. L. Hinds, Esq., Byfleet Lodge, Surrey, sent a dish of the fruit of *Pasiflora laurifolia*, or Water Lemon, for which he received a first-class certificate. C. Leach, Esq., of Clapham, sent a beautiful collection of *Nerines*, among which were the charming *Fothergilli*, *undulata*, *humilis*, and *corusca major*, and received an extra prize. Mr. Young, also sent a collection of miscellaneous plants, for which he received a first-class certificate.

MUSHROOM-BED—MANURING A LAWN— POTTING LAPAGERIA ROSEA.

LAST JUNE I made a Mushroom-bed, which has borne shyly up to this time. It has not quite stopped. It is in a close coach-house, and was made up with three loads of horse-droppings. On examining it I find it quite full of spawn; indeed, the bed is quite white with it. What would you recommend me to do?

Do you recommend covering a grass plot with old manure in the winter months for giving it strength in the spring? Is any addition needed to peat and sand for potting *Lapageria rosea*, and when should it be done?—W. A. O.

[We would let the Mushroom-bed remain, but make holes in it with a pointed stick, and water it with water from which the chill has been taken off; but you had better make up another bed as well.]

The manure spread in winter and bush-harrowed, will make the grass better in spring; but most lawns are apt to grow faster than the gardener likes.

We would add turfy loam to the peat and sand for *Lapageria rosea*; but the main point is plenty of drainage and plenty of water when the plant is growing. We would prefer fresh soiling the plant in March or April, but if there is a defect of drainage, or the soil is wet and soured, it had better be done at once.]

THE PHILOSOPHY OF PRUNING.

(Concluded from page 274.)

THE second object of pruning being to promote fruitfulness in the trees, it should be done chiefly in the summer, or during the period of growth. At the same time, or during the growing season, much may be done to advantage both in thinning out and shortening-in such parts of the tree as may need these plans of treatment. Various methods are pursued to produce fruitfulness, all of them depending upon the fact that this condition arises from the natural habit of the tree to make its wood-growth very freely for a series of years, and then, while the growth by extension is curtailed, to take on that wonderful change by which the wood-buds are transformed into those that expand into flowers and produce fruit. The study of these changes is called morphology, and when the tree has reached this condition, it is said to have arrived at its maturity.

After the tree has built up a complicated structure of limbs and branches with some consequent obstruction to the flow of sap, dependent upon the hardening of the woody tissues and contraction of the cells, as well as upon the tortuous course of its passage, it appears to reach its maturity, and to come into bearing condition. It ceases to make such free wood-growth, and prepares a set of buds which develop flowers and fruit.

Now this period of growth and unfruitfulness may continue for a longer or shorter period in different varieties of fruits, and the curtailing of this period is the great object of the leading operations of summer pruning, and of other methods of producing fruitfulness that may be classed with it under the second head of the objects of pruning.

To appreciate their importance and the mode in which the effect is produced, we must bear in mind the two great acts of vegetable life—the production of wood and that of fruit, the one multiplying the associated buds or plants that make up the community of buds which constitute the tree; the other producing the germs of new plants that are to be separated from the organism, and which are prepared to set up a separate ex-

istence. These two acts are in some sense antagonistic. The first is essential to the production of timber, to the building up the tree, and should be encouraged to do its work undisturbed, to a certain point, that we may have a substantial framework by which our fruit can be supported. The latter, however, is the ultimate desideratum with fruit-growers; and in our impatience to reap a quick reward we often resort to measures that tend to curtail the usefulness, size, and beauty of our trees, as well as their performance. This is an illustration of the axiom, that whatever threatens the vitality of a plant tends to make it fruitful—calls into activity the instinctive effort to perpetuate the species by the production of seed that may be separated from the parent, and establish a distinct existence to take the place of that, the life of which has been threatened.

The operations of summer pruning and pinching constitute an interference with the growth by extension, and threaten the life of the tree. The entire removal of all the new shoots and their foliage, and the repetition of this operation upon the successive attempts at their reproduction by the tree, will cause its death in a little while; their partial abstraction as practised in these operations of summer pruning and pinching, being an attack of the same kind in a smaller degree, results in the formation of fruit-buds. The operations of budding and grafting upon uncongential stocks, interrupting the circulation of the sap by ringing, by ligatures, by hacking, twisting, and bending downward, all tend to the same end; they check the growth by extension; they interfere with the wood-growth, and they are attended by similar results, since they are antagonistic to the mere production of wood, or to the growth of timber. Shortening-in the branches of some species which form their fruit-buds upon the shoots of the current year has the effect of giving them a fuller development if performed at the proper season, but if deferred to a later period, this process will have a directly opposite result, and will cause an increase of the wood-growth at the expense of the flowers and fruit.

The season for pruning has been made the subject of much discussion, and different periods have been advised with great confidence by different authorities. From this diversity of views it may be inferred that all are somewhat right, or may be supported by good reasons. This refers, of course, to pruning in its general sense of trimming, and applies to the removal of limbs of greater or less size. We always desire to avoid ablation of large limbs, and we should endeavour to provide against the necessity for their removal, as much as possible, before their production, by a proper thinning-out of the branches in the young tree, taking them away when they are yet small; but when such removal becomes absolutely necessary, from their decay or injury, the operation should be performed late in the autumn, when the tree is at rest, and the circulation almost null, because it is found that such large wounds, which cannot be healed over by the deposit of new growth will, if formed at this season, dry-in, and resist the action of the elements better than if the section had been made when the wood was full of sap.

Mild winter weather, or the early spring time, is a favourite time for pruning, because it is comparatively a period of leisure; the absence of foliage affords us an opportunity to see the work before us, and to anticipate its effects upon the configuration of the tree. So soon as the buds begin to swell, and the foliage to expand, pruning should be arrested, unless in small trees, because the sap is in active motion, and the material called cambium is not yet developed; hence, the wounds will bleed, and are not so readily healed over; besides, the bark at this season is very readily separated from the wood, and bad wounds are thus frequently produced by the pruner, which may seriously damage the tree. Then comes a period when pruning had better be suspended until the time the trees have completed their growth by extension, and formed their terminal buds at the ends of the shoots. The precise date cannot be given, but it is indicated with sufficient accuracy by this mark in Nature's calendar—the formation and full development of the terminal buds, and by the copious deposit of woody matter throughout the tree. The annual layer of fibres is then being produced, and the tissues are in the formation stage; the tree now possesses, in its own organism, the best of all plaisters to cure and cover the wounds made by the saw and knife, it now possesses the true *vis medicatrix nature* in the highest degree.

A few intelligent nurserymen have learned this very important lesson, and have applied it in the preparation of their trees for the exposure incident to their removal from the nursery to the orchard. A very few of them practise it systematically. I know

one (alas, for the lamented Beeler, of Indiana!) who acted upon the suggestions made to him by observers. He preserved the side branches, though subordinated by shortening when necessary, in order to give stocky stems to his trees, and afterwards he removed these with a knife during the summer, before they were to be sold and planted, instead of waiting to perform this trimming up, until they were dug and sent to the packing-shed, in the fall or spring. The result was, that while his stems were stout and stocky, they were also smooth, the wounds were neatly healed over with new bark, instead of being open from the fresh cuts and liable to crack or bleed, as they would have done had this pruning been deferred until after digging either in the fall or spring. Others may have done the same thing; but you all know that the trees you receive are not possessed of the desirable characters in these respects. To some this may appear a small matter, but it is introduced as an illustration of the principle involved in selecting the period for pruning. For the removal of small limbs from young trees, hardly any time can come amiss. 'Twere better to do it out of season than to neglect it; and it is a good rule to have a sharp pruning knife always at hand when passing among our young orchard trees. There is but one time when pruning should be absolutely interdicted, and that is all the time that the wood is frozen. When so circumstanced it should never, on any account, be cut or disturbed or handled in any manner, not even to gratify your best friend by helping to a few grafts from your tested tree of some coveted variety. Let him wait for a thaw, or go away without them, rather than commit such an outrage upon your tree as to approach it when frozen.

While considering the question of the proper season for pruning, there is one axiom of great importance which should be firmly impressed upon the mind of the orchardist: Much will depend upon which of the two leading objects he may have in view—vigour of growth and symmetry of form, or simply fruitfulness, as the result of his labours in pruning his trees. Pruning at one season will induce the former effect; at a different period of the year, the same work will conduce to the latter results. Hence, the value of this postulate, which is pithy and easily remembered—Prune in winter for wood, in summer for fruit.—DR. JOHN A. WARDER, *Cincinnati* (in *American Gardener's Monthly*).

VICTORIA NECTARINE.

Now that the time for the purchasing additional trees for the orchard-house is at hand, I feel that it may be useful to some of your readers to hear my report of the Victoria Nectarine of Mr. Rivers. In spite of this very sunless autumn I have found this sort ripen its fruit perfectly, and the flavour is as fine as can be desired; it is also the most juicy of any kind that I grow. As I live on the borders of Leicestershire and Derbyshire, and in a cold part of the locality, I think my experience is worth having, as probably in more favoured regions this excellent fruit would be found better still.—C. F.

THE MAIDEN'S BLUSH ROSE AS A STOCK.

MORE than three years ago I was induced to notice this stock in the first volume of the "Florist and Pomologist" (page 87), and subsequent trials have confirmed the favourable opinion I had then formed of it, not only for the purposes then stated, but as the best stock for all uses; and I am glad to find "Loch Ness," in a recent Number of the Journal, speaking favourably of it.

Compared with the Dog, Briar, and other common stocks, it may be considered imperishable. Its wood is dense and firm; the bark, even on two or three-year-old shoots, opens freely for budding; hardy as the Briar, it will thrive in any soil or aspect; and it works kindly with graft or bud, and with every kind of Rose.

I can assure "Loch Ness" that it is as easily propagated as the Manetti at this season by cuttings made from spring shoots. I have not tried it for potting-purposes, but I have no reason to anticipate failure if so employed. While we have been searching for good stocks in out-of-the-way places, we have had the very best before our eyes.

My two old trees, though innocent of suckers, send up from their bases aboveground strong shoots annually, and on them I have magnificent blooms, from buds of Gloire de Dijon, Auguste Mie, and three crimson and scarlet Roses, which cover the bare portion of the stem; and overhead Cloth of Gold,

Ophirie, and Saffrano luxuriate, in harmony with the Maiden's Blush, for I preserve with care the old bird which lays the golden eggs in the form of nice cuttings, of which I have a goodly number planted. Harsh treatment this! What stock besides would bear it with impunity? Yet this (old maid, I fear, I must call her, for I have reason to believe both of these trees have been upwards of forty years in their present situation), tree flourishes in a poor soil, and does all I require in return for three doses of liquid manure annually. I find it answers every purpose, and I am confident so will every one who gives it a clear stage and as little favour as I have granted to it.—AMICUS.

GRASSES FOR LAWNS.

ANTHOXANTHUM ODORATUM (Sweet Vernal Grass).—This likes a cool rich soil, but will grow almost anywhere. Its herbage is short, and oftener scanty than otherwise. On account of its earliness it is desirable to include it in a lawn mixture, but it should be used sparingly. This is the species which gives the grateful odour to new-mown Grass, and which is so powerful in hay; but it is not the only one, for the same grateful odour is observable in hay to all appearance totally devoid of this Grass.



Stems 1 foot or more, simple, slender, furrowed, often knotted, naked at top. Leaves short, flat, acuminate; those on the stem very short, spreading. Sheath very long, somewhat bellying, furrowed, with a spear-shaped, upright, skinny sheath-scale. Spike terminating, upright, acute, many-flowered. Flowers on short footstalks. Calyx, valves skinny, acute, sometimes with small hairs, rough on the keel. Corolla, valves nearly equal, shorter than the calyx.—G. ARREY.

(To be continued.)

FUMIGATION.

THIS is always a sore puzzle to the plant-grower, and various are the means adopted for getting rid of that horrid pest the green aphid. I have lately tried a fumigating-pot of very simple construction invented by Mr. H. Appleby, the well-known foreman of Mr. Ivery, of Dorking; and used with it the

tobacco paper which he manufactures. It is, I am glad to say, very efficacious, and has completely cleared my small house. The pot is very simple, and answers equally well for the cold pit; while the tobacco paper is free from any deleterious matter which can affect even the most tender plants.—D., Deal.

QUEEN ANNE'S POCKET MELON.

EVERYONE who has much to do in providing a variety of materials for the dessert, must feel grateful to Mr. Perkins for the service which he has rendered in drawing attention to that valuable but too-little-known gardener's friend Queen Anne's Pocket Melon. I can readily endorse all he has said in its favour. I well remember the high estimation in which it was held, and the quantities that were cultivated in a large garden where I served several years when a youth. It was thoroughly appreciated by the proprietor, who liked a fresh Melon every day during the season.

It has another recommendation, certainly not the least—viz., its easy culture. The best-flavoured and best-looking fruit I ever saw were grown in a cold frame without any artificial heat whatever, excepting, of course, that the plants were raised in a little heat. The seed was sown about the first week in April, and the plants turned out into the frame in ordinary soil about the middle of May, the fruit being ripe by the middle of August. This valuable quality should place it on the list of every amateur, who, though perhaps possessed of but limited space, yet would enjoy a ripe Melon grown in his own garden.

I am now in a situation where I am expected to grow a large quantity of Melons, and of various kinds, and have tried in vain to obtain the true Queen Anne's Pocket Melon, such as Mr. Perkins describes, "beautifully striped with red and gold." I obtained seed from two of our leading seedsmen. In one case I obtained fruit as little like what I expected as it was possible for a Melon to be. In the other case it produced a small pale green fruit, but the peculiar characteristics of Queen Anne's Melon were entirely wanting. However, for want of a better I have been compelled to make this answer my purpose. If Mr. Perkins would tell us where seed of the true variety can be obtained, I, and I have no doubt many others, would be exceedingly grateful to him; and if at the same time he will give us the benefit of his experience, and tell us how to grow Melons "in small pots, with stems about a foot high, and about five or six fruit on each of the plants," he will confer a great boon on many others besides—CUCUMIS MELO.

[We suspect that this Melon is one of the oldest of varieties. Switzer, writing in 1727, remarks, "If you should choose early Melons, you should choose the smallest kind—the early green little Melon, and the *Arjou* being the chiefest of this class." The latter we think is our Queen Anne's.]

VIOLA CORNUTA.

IN reply to several correspondents as to whether *Viola cornuta* will stand the winter without protection, I can state that it is perfectly hardy, and does not require the protection of a frame even in the north of England, and I have little doubt but that "A CORNISH GARDENER" might have it beautifully in bloom all through the winter months in the open air, in the genial climate of Cornwall; he might also have it flowering all the year round by propagating it at different times. I have found that plants of *Viola cornuta* propagated late in the spring, would produce a large amount of bloom during the latter part of the summer and in the autumn months. It is necessary, in order to have a constant supply of good flowering plants, to take cuttings three times a-year. For an early spring bloom cuttings should be put in about the second week in August; for the summer display, in the second week in October; and for autumn, early in June. By thus keeping a succession of plants, and planting them out in a corner of the kitchen garden, if there are small late spring-struck plants of *Iresine*, seedling *Amaranthus*, variegated *Pelargoniums*, &c., any bed that has become monotonous in the flower garden may quickly be refilled with something more pleasing to the eye. I think this change would be very desirable in any case, especially as the labour attending it would not be very great. Many of our pretty annuals might also be more extensively used for early summer decoration. If this system of propagating a reserve stock of bedding plants were carried out, a very pleasing alteration would be effected in the present style of bedding-out.

To return to the *Viola cornuta*, I see Mr. Bennett has been writing about it in the pages of a contemporary. He wishes to know who attached my name to it, and quotes some answers to correspondents. I may state for Mr. Bennett's information, that in consequence of receiving so many letters enclosing specimens, and asking whether these were like the variety which I possess, and finding none of them so, all the correspondents who wished to obtain the right kind were told to ask for Wills's variety. It could be proved by an examination of the plants, both at Messrs. E. G. Henderson's, and in the Liverpool and Manchester Botanic Gardens, that there are two other varieties besides the one which I first brought before the public; also that these varieties are worthless as compared with mine. Mr. Bennett may very likely possess the best variety—no one, I believe, has ever said he does not; but for the sake of proving whether it is so or not, if he will kindly send me a small basketful of good specimens of the variety which he grows; I will return it full of mine; we shall then be able to compare both to our mutual advantage.

I should be glad if "A CORNISH GARDENER" would try the *Viola* as recommended above, and state in this Journal his experience in the spring of next year.—J. WILLS.

WORK FOR THE WEEK.

KITCHEN GARDEN.

THE decline of the late crops of Peas, Beans, Cauliflowers, &c., should be followed by their immediate removal, and no decaying or useless vegetable matter at this moment should be allowed to cumber the ground. If the spaces be not directly required, they had better be rough-dug or ridged for exposure. The distribution of manure should be governed by a due consideration of the late and proposed crops—for instance, the Onion quarter has probably received a dressing sufficient for it to carry a crop of Cabbages without further assistance; strong-growing Peas and Beans impoverish the land, quarters which have been thus occupied might be appropriated to early Potatoes in due season. *Asparagus*, the stalks should be removed, and an adequate quantity of seed collected for the yearly sowing. A slight dressing of salt may be advantageously applied to the beds. *Cauliflowers*, the out-of-door Cucumber-bed, stirred over, will be suitable for the August-sown plants which shortly will require the protection of hand-lights. Some prefer keeping their Cauliflower plants in small pots under glass. *Lettuce*, a good supply of the late sowings should be planted in situations best calculated to afford protection in winter. When the accommodation of pits and frames can be afforded, a quantity might be planted within them to ensure a regular supply, independent of the weather. *Rhubarb*, clear away decayed leaves, and dress with a little good soil those plants intended for early forcing.

FRUIT GARDEN.

The present is by far the best time for lifting and transplanting very vigorous unfruitful trees on the walls. Apricots, Peaches, and Nectarines may be so treated with great advantage, and, after the operation is completed, they should be well mulched up for the winter. Fill up all vacancies on the walls with young trees; never let this be left until the spring if it can possibly be avoided. Where root-pruning is considered necessary, now is the time to see to it.

FLOWER GARDEN.

Although heavy rains marred for a period the brilliancy of the flower garden, a little fine weather has done wonders in restoring the plants to bloom and beauty. This may not generally be the case, but we are persuaded where the composition of the soil of the flower-beds and borders has received proper attention, and where stimulants have been judiciously applied, the health and vigour of the massing plants generally have enabled them to continue the development of the blossom. The autumn-rooted stock of *Verbenas*, &c., must be well attended to, keeping them perfectly clear of green fly, and exposing them freely to the air on every favourable opportunity, so as to prevent anything like growth after this season, and to keep the plants hard, in which state they will be much less liable to fog off under a week or two's confinement in winter than if they were kept in a growing soft state until overtaken by severe weather. Plants which are not sufficiently established must, however, be treated somewhat more kindly, for there is little chance of carrying such over a severe winter unless they are at least well rooted, and these might with advantage be placed upon a gentle bottom heat to encourage the

roots; but do not keep the atmosphere close and moist, for growth should not be encouraged after this season.

GREENHOUSE AND CONSERVATORY.

Hints from the thermometer should regulate the admission of air. The great advantages accruing from favourable weather should be employed to the utmost extent, and in many cases openings for air left all night. The practice of opening the sashes at stated intervals to only a certain degree, without reference to external circumstances, must throughout the season be avoided. Whatever watering may be necessary should be done early in the day, so as to allow of the superfluous moisture being dried up before night, for there is much more danger from damp amongst plants in flower at this season, than from a rather low temperature; and in cold, dull weather it will be advisable to use a little fire heat, with air, during the day, so as to secure a moderately dry state of the atmosphere. Use fire heat very sparingly, however, and only when it may be necessary to prevent injury from damp, and to prevent the temperature falling below 40°; or, where plants are brought from warmer houses, it will hardly be safe to allow the night temperature to average below 45°; but in houses containing a mixed collection of plants there is more danger to be apprehended from a high night temperature than from keeping it somewhat lower than may be suitable for some of the inmates. The scarlet Pelargoniums prepared at the beginning of the summer will now be coming into bloom, and in a temperature of from 45° to 55° will continue to bloom for many months. *Salvias*, too, especially the old *Salvia oocinea* and some of the other kinds, with *Chrysanthemums*, *Perpetual Roses*, and a few choice plants from the greenhouse and stove, will make the conservatory look gay for a long time to come. Do not forget the Neapolitan and tree Violets, with *Mignonette* and *Cyclamens*, and such other plants as may evolve a little scent, and keep every part of the house as neat and clean as possible. The specimens on the walls and in the borders must be examined at the roots, and, if necessary, receive a gentle soaking of weak clear liquid manure. Look the *Camellias* over, and thin out the flower-buds when necessary, allowing not more than two buds to each shoot, and retaining the largest and smallest, so as to obtain a long succession of flowers. The leaves, if necessary, must be washed perfectly clean, and the same of Orange trees. Those who have no more room for their plants than they know what to do with, will be glad to convert the vineries and other forcing-houses into plant-houses for a few months. For such houses strong portable stages should be provided, and in them such plants as *Chrysanthemums*, *Pelargoniums*, and many other plants grown for their flowers, may be housed until the return of the forcing season. If the wood of the Vines is pretty well ripened the lateral shoots may be removed to admit light to the plants, and some of the longest of the spurs may be shortened in likewise. A great number of plants is generally packed under the stages, and there scarlet *Pelargoniums* and *Calceolarias* from the flower garden establish themselves admirably between this and the new year.

STOVE AND ORCHIDS.

Little now can be added with regard to these tribes at present. A temperature of 65° to 70° by day and 60° by night will suffice, still using a moist atmosphere in the afternoon and during the night, with a free circulation of air, keeping also a quiet ventilation all night. As some of the Orchids become ripe, such as the *Catasetum* family, the *Cycnoches*, *Lycastes*, &c., they may be removed to a drier and somewhat cooler atmosphere. Pursue a kindly course of treatment with the *Euphorbias*, *Gesneras*, and such things for winter-flowering; these will soon be of great service. The *Phajus grandifolius* with the *Stenorrhynchus speciosus* will soon begin to blossom, also *Cypripedium insigne* and *venustum*; let them have plenty of heat and moisture.—W. KEANE.

DOINGS OF THE LAST WEEK.

A FINE day on the 8th, the first sun for ten days on the 9th, and a dry dewless morning on the 10th did much to bring up arrears in the corn and fruit harvest. The previous ten days had been the darkest, dreariest, and dampest without rain that we have ever known in this neighbourhood at the end of September and the beginning of October; and though it was very close and muggy at times, the corn crops left out, though injured in colour, suffered little or nothing from growing, and in this respect fared better than much that was harvested in good condition, but was not thatched before the rains came.

KITCHEN GARDEN.

Cleared off all the Onion crop, and placed the Onions where they can be tied in strings on wet days, that the ground may be dug for succession Cabbages. As the plants are rather small, will most likely prick them out in a rich-surfaced bed, so as to lift them when larger, and plant with a trowel, and then, before being turned out, they will be stronger to resist their enemies, and the ground will be in better order. Placed a layer of burnt ashes, earth, &c., between the rows of those first planted. A little sun is making them look up. In the sunless damp weather they scarcely made any advance in growth. A similar beneficial result is showing itself in all Turnips, and especially late ones. Earthed up a piece more Celery, and placed some ashes round the stems. Unless we have a very dry autumn watering will not be needed, and this season for Celery the water-pail has scarcely been used. Planted Lettuces where they can be protected in frost, and younger ones where they will stand the winter if possible. Banked-up the linings of Cucumber-frames, and trained the plants in a pit intended for late bearing, not allowing any fruit to remain as yet on the young plants. Gathered Tomatoes, and cut Red Cabbages for pickling.

Cut over the stems of *Globe Artichokes*, which have ceased bearing much earlier than usual, and the shoots are showing weaker, indicating that they want manure after all this wet and misty weather. Cut over Asparagus after collecting some seed, and cleared the ground, taking stems and weeds to the burning heap; as, if the haulm of the Asparagus is used in the way of protection, or is placed on the rot-heap, there will be multitudes of young plants in another season, and Asparagus when not in its right place is no better than a weed. Wheeled some rotten dung to be forked over the Asparagus-beds and rows; but we would rather feed in June and July, if we could. Cleared Sea-kale and Rhubarb troubled with weeds, and removed the leaves where faded, that the plants may be made ready for forcing. A little of the *Convolvulus* had established itself among the *Globe Artichokes*; we shall try and take out the roots before we add the manure required, and we will then put a little ashes and litter round each stool. We like *Artichokes* to come in early, and to continue later than this; but we shall not have nice late heads this season. Now is a better time to make fresh plantations than in spring; and digging or trenching round the stools, so as to take off good-sized pieces well furnished with roots, is the best mode of obtaining strong plants. These, turned out into rich well-trenched ground about a yard apart, and well firmed in their places, will take hold of the soil before severe weather, and then a crown of ashes and a wisp of straw will secure them from severe frost. In most places it is best to renew the plantations, say in five or six years, and in large places a row might with advantage be planted every year, destroying an old row as the new one was established. There are some places where *Globe Artichokes* are as much valued as the Cauliflower is in others. At this season a little rough cinder ashes from coals is a good protection to young Cauliflower, and having put some round hand-lights we see no sign of a slug or a snail entering as yet. They do not like the sharp angles of the rough cinder ashes.

Walks.—Those in the kitchen garden will soon want going over, as in many places the dull weather has left them green, where three weeks ago they were as bright as need be, and without a weed on them. There is much work to be done in this fine weather, and as most likely a few nice days will be followed by clouds and rain, it should never be forgotten that more may be done to kill weeds in one sunny day than in a fortnight of dull damp weather.

FRUIT GARDEN.

Very much the same as last week, only that the change in the weather has enabled us to house all the ripest fruit. Take note of what was said last week as to planting fruit trees, shrubs, &c. Our Peaches in-doors will ere long be over. Our friends in the north, if the weather keep fine, may expect to have fine fruit yet. We think early fruit out of doors, and especially Pears, even such kinds as Williams's Bon Chrétien, were harder, more gritty, and not so well flavoured as usual, owing, we believe, to the long duration of sunless damp weather. In this neighbourhood, judging merely by tanks and reservoirs, there has not been a great excess in the amount of rain, but the length of time for which we were kept in a sort of gentle shower-bath has been next to unexampled. We presume that from thus being as it were wrapped in wet garments, Plums out of doors were not comparable to those under glass, though in general they are at least quite as good in a bright dry autumn.

ORNAMENTAL DEPARTMENT.

The dry days furnished an opportunity of raking, re-raking, levelling, and rolling the walks which had been becoming green. This will make them slightly rougher on the surface in winter, and prevent their sticking to the soles of the boots in wet weather. Rolled, also, the lawns before mowing them some days hence. Most of the walks will now look pretty bright and clean, and a little picking will make the flower garden look fresh and gay for some little time longer, but for the falling leaves, which always remind us that the gay season is about over. Elms, Horse Chestnuts, and Beech, are losing their leaves early, and even Oaks are becoming tinged, and as the leaves fall it is endless labour to keep pleasure grounds neat and clean. As everything about spring is joyous and exultant, so most of the prognostics of autumn and its end speak of the sombre and the melancholy; and though there may be something beautiful in the hues of the changing leaf, whilst as yet it is attached to its kindred tree, it loses its associated interest when it becomes the sport of the breeze across a green lawn. Clean walks and smooth green lawns are ever attractive in the gloomiest months.

Went on preparing plants for winter, housing some and taking others under shelter; also put a lot of rough hay and dry litter in a shed ready for use, that many tender things might be protected quickly if a sudden frost should come. Propagation has chiefly been confined to the *Amplexicaulis Calceolaria*, placing the cuttings in pots, and plunging these in a frame, in which there is just a little bottom heat; also to preparing a pit for the bulk of the bedding *Calceolaria* cuttings. This pit, being sunk, is too deep for the purpose, and therefore we place at the bottom about 9 inches, or in some places a little more, of dry litter, with a little grass and leaves, trodden firm. This secures drainage at least, and at first, perhaps, a little more than the heat of the common ground. On this was placed about 4 inches of old hotbed dung, chiefly rather more than half-decayed leaves, well broken, the finest left at the surface, and as there were some worms, quicklime in a powdery state was wrought backwards and forwards in it with the points of a fork, to prevent the worms rising into the soil above. This was well trodden and levelled, and on it was laid about 1½ inch of sandy soil from the roadside, and about one-sixth part of fine leaf mould; on this again 1½ inch of such sandy soil, with about one-third of sand and road drift added, and then from a quarter to half an inch of pit sand and road-drift sand in equal proportions for the surface, which was nicely levelled and firmly beaten. This bed we have left open, that any fumes from the lime may escape, and in a week or so we shall begin to insert the small cuttings firmly, affording them a space of 1½ inch one way, and about three-quarters of an inch or an inch the other way. They have hitherto, when so treated, kept nice and green, and begun to root about Christmas, or a little before if kept close, and wanted thinning out about March, when they could do with very little protection. We have often had thirteen lights thus filled, and not lost one cutting in a thousand. Time, however, must be given. Less trouble would be required if the bottom of the pit or frame were hard and above the surrounding ground level. Then we would merely put in a couple of inches of leaf mould for a bottom, and soil as above, and then plant the cuttings, or rather make a mark and stick them in with the fingers and thumb.—R. F.

COVENT GARDEN MARKET.—OCTOBER 13.

The improved condition of the weather has had a marked effect on business, and owing to the heavy stocks in hand, we cannot quote any advance in prices. Pears consist of Marie Louise, Seckle, Louise Bonne of Jersey, Gansel's Bergamot, and Maréchal de la Cour. Apples comprise Ribston Pippin, Cox's Orange Pippin, and King of the Pippins. In addition to former supplies, we have just received six thousand barrels of Portugal Grapes in good condition. The Potato trade is better, and there are fewer complaints of the disease.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples ½ sieve	2	0 to 3	Melons..... each	2	6 to 5
Apricots doz.	0	0	Nectarines..... doz.	0	0
Cherries lb.	0	0	Oranges..... 100	12	0 20
Chestnuts bush.	12	0	Peaches..... doz.	4	0 10
Currants ½ sieve	0	0	Pears (dessert) .. doz.	1	0 3
Black doz.	0	0	Kitchen..... doz.	1	0 2
Figs doz.	1	0 2	Pine Apples..... lb.	3	0 5
Filberts..... lb.	0	6	Plums ½ sieve	7	0 0
Cobs..... 100 lbs.	0	6	Quinces ½ sieve	5	0 0
Gooseberries..... quart	0	0	Raspberries..... lb.	0	0 0
Grapes, Hothouse.. lb.	2	0 5	Strawberries..... lb.	0	0 0
Lemons..... 100	8	0 14	Walnuts..... bush.	10	0 14

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes..... each	0	2 to 4	Leeks bunch	0	2 to 0
Asparagus..... bundle	0	0	Lettuce..... per score	1	0 1
Beans, Broad..... bushel	0	0	Mushrooms..... pottle	1	0 2
Kidney .. ½ sieve	2	0 3	Musht. & Cream, punnet	0	2 0
Beet, Red..... doz.	2	0 3	Onions..... bunches	4	0 0
Broccoli..... bundle	1	0 1	Parsley..... doz. bunches	2	0 3
Brus. Sprouts ½ sieve	3	0 3	Parsnips..... doz.	0	2 1
Cabbage..... doz.	1	0 2	Peas..... per quart	0	0 0
Capsicums..... 100	2	0 4	Potatoes..... bushel	2	0 4
Carrots..... bunch	0	4 0	Kidney..... doz.	8	0 4
Caniflowers..... doz.	3	0 6	Radishes doz. bunches	0	6 1
Celery..... bundle	2	0 3	Rhubarb..... bundle	0	0 0
Cucumbers..... each	0	4 1	Savoy..... doz.	0	0 0
pickling..... doz.	2	0 0	Sea-kale..... basket	0	0 0
Endive..... doz.	2	0 0	Shallots..... lb.	0	3 0
Fennel..... bunch	0	3 0	Spinach..... bushel	2	0 3
Garlic..... lb.	1	0 0	Tomatoes..... per doz.	1	0 3
Herbs..... bunch	0	3 0	Turnips..... bunch	0	4 0
Horseradish..... bundle	2	6 4	Vegetable Marrows doz.	0	9 1

TRADE CATALOGUES RECEIVED.

André Leroy, Angers.—*Supplément au Catalogue de l'Hiver, 1885.—Tableau des Arbres Forestiers et d'Ornement, déjà forts.*

T. Warner, The Abbey, Leicester.—*Catalogue of Roses, Ornamental Trees and Shrubs, Climbing Plants, &c.—Trade List of Fruit Trees, Ornamental Trees, and Shrubs.*

Charles Turner, Royal Nurseries, Slough.—*Select List of Pelargoniums, Auriculas, Cinerarias, Pinks, &c.—Catalogue of Roses, Fruit Trees, Conifera, Hardy Trees, Shrubs, &c.*

TO CORRESPONDENTS.

. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

N.B.—Many questions must remain unanswered until next week.

"M. D." has received the plants, and sincerely thanks "LOCH NESS" for his kindness.

ARUNDO DONSTICUA (L. J. P.).—It is hardy. Now called usually *Calamagrostis conspicua*.

PEAR-TREE LEAVES (*Clericus Devonensis*).—The rough spots beneath the leaves are a fungus, called *Rostelia cancellata*.

BAILLY (W. H.).—You had better employ a solicitor for drawing up leases and agreements. Brown's "Forester," and London's "Self Instruction," will afford you the other information you need.

GRAPES (*A Subscriber, Norwich*).—Apply for the information to Messrs. Webber & Co., Grand Row, Covent Garden.

HEATING A VINEY (E. N.).—In a late Number in replies to correspondents, you will see that we prefer having the greater number of pipes flows, and the best mode is mentioned. The stems of the Vines should be 18 inches from the pipes.

KEEPING FILBERTS (*Blume*).—We find Filberts keep well in the husk, closely packed in stone jars, and put in a cellar, the lid being covered with sand.

SEEDLING GLADIOLI (*Idem*).—Take up the seedlings when the foliage changes, or before it becomes dead, and keep them out of the soil until spring—February or March. The beginning of this month is the best time to sow Gladioli seed to obtain bulbs next autumn, to bloom in the succeeding summer.

SALT FOR DESTROYING MOSS ON LAWN (M. H.).—We do not recommend the sowing of salt on a lawn to kill moss, for we find what will kill moss will kill the grass. Moss is an indication of the poorness of the soil and dampness of the surface. To destroy it, nothing will serve you so well as a dressing of fine rich soil or well-rotted manure, and you may apply it, after having given the lawn a good scratching with an iron rake, from this time up to the middle of March. Now is the time to kill moss, this being the season of its most active growth. The soil or manure will make the grass grow so as to overcome the moss. A dressing half an inch thick will answer.

TRANSPLANTING ROSES (W. H. M.).—The Roses budded this year, and having shoots from 3 to 5 inches long, may be safely moved to their permanent quarters early next month, or at the end of this month. It will be better done now than a year hence.

SPHEROXYNE LATIFOLIA STEM CANKERED (H. M. G.).—The stem has from some cause been injured, probably by a cut or bruise, which has spread until the whole of the bark has been destroyed. We are not aware that the plant is subject to canker.

ALOCASIA MACROPHYLLOIDES VARIEGATA LEAVES DECAYING (*A Young Gardener*).—From your description we should attribute the decay of the white or variegated portion of the leaf to a deficiency of heat. In summer the plant should have a night temperature of from 70° to 75°, with a rise by day of 15°. In this temperature, and a moist atmosphere moderately ventilated, it grows most freely. In a sweet atmosphere its leaves are not more subject to spot than those of other plants of the same family.

POTATOES FIT FOR STORING BY THE END OF JULY (Wills).—The Lapstone is the best of all Potatoes which we have grown or eaten, and it is fit to take up for storing by the end of July. This year we cut the tops off ours on the first appearance of the disease, leaving the tubers in the ground, and there was not a diseased one among them. The varieties were Lapstone, Daintree's Seedling, and Milky White, the three which we recommend for the general crop. Another variety of which we have not yet seen a diseased tuber is Transell's Seedling. The main crop should be planted in the third week in March if the ground is in good order, or from that time to the second week in April. Of Flukes and Pink-eyed Flukes (Queen of Flukes), grown on the same soil, more than half were bad, but of the Skerry Blue there was not a diseased tuber. It is a good, rather yellow, and strong-flavoured sound-keeping Potato, and we like it best of the late kinds next to Arrowsmith's Seedling, which with us is good and esteemed at table.

ORCHARD APPLE TREES PRUNING (Idem).—You will do well to thin out the branches of your trees when the leaves have fallen, but not to the extent which we understand you to mean by using the saw freely. Use it moderately, for if you thin too much you will cause the production of a number of shoots from the branches, and so crowd the head, and make bad work. The drainings of the cow-sheds and pig-styes you may use as you propose, but at a distance from the stem. Removing the grass if you do not go deep, or only sufficiently so to take it off, is good; giving the ground for a distance of 8 yards from the stems a dressing of manure in autumn, and pointing it in in February, will benefit the trees.

ROOT-PRUNING OLD WALL TREES (Idem).—Your trees being vigorous a trench may be taken out a yard from the trunk, and, working underneath towards the collar, cut any roots that penetrate into bad soil or go deep, but if weak probably a top-dressing of manure in autumn would do more good.

DESTROYING WEEDS ON WALKS (Idem).—The information you seek is stated at page 189 of the present volume.

CONTINUOUS-BLOOMING ROSES (Idem).—Three good standard late-blooming Roses are Aedile and Paul Joseph, both Bourbon; and Senateur Vaise, Hybrid Perpetual. Three climbers for a wall: Maréchal Niel, Climbing Devonensis, and Gloire de Dijon, all Tea-scented. Three old continuous-blooming Roses, such as seen in cottage gardens, are the old Blush China (Rosa indica), Armosa, an old Bourbon which we have not seen lately, though an excellent Rose, of a clear bright pink, and the old Crimson or Dark China.

CIRCULAR-TERRACED FLOWER-BED (A Young Gardener, Mrs. J. G.).—Purple Verbena, Iresine, or Perilla, would do for the centre, yellow Calceolaria for the second tier, and Scarlet Geranium for the outside lower one, with a mixture of blue Lobelia and variegated Alyssum hanging over the sides of the beds. You do not give us the size of the beds.

ALPINE STRAWBERRIES FOR AUTUMN CROPPING (Vicarius).—Your best plan will be to sow the seed in spring, about the middle of March early in April, in pans or boxes filled with a compost of turfy light loam two-thirds, and leaf mould one-third. Make the surface smooth, and on this scatter the seeds, not too thickly, and cover lightly with fine soil. Give a gentle watering, and place the boxes in a house with a gentle heat. When the young plants appear expose them to air and light as much as possible, but keep them under glass until they have grown sufficiently to prick off, then expose them fully, and when thoroughly hardened off plant out in lines a foot apart every way in an open situation. The ground should be well drained, and in good condition. Liberal supplies of water will be necessary in dry weather in summer and autumn. A sleeping bank with a dry subsoil is essential, in order to have fruit late.

PEACH TREES ON AN EAST ASPECT (A Young Gardener).—The trees on the east aspect will not fruit satisfactorily. Peaches in our climate require a wall facing due south in the northern counties, and a south-west wall in the south of England; but a south aspect is in all cases desirable. The drying back of the wood in winter is the effect of the cold on the immature growths of the previous year; and this result may be caused by the aspect, but more likely by the roots having struck deeply into the soil, which you say is heavy and undrained. Your only plan will be to take up the trees carefully as soon as the leaves begin to fall, to drain the border efficiently, and to replant with the roots on the surface, covering them with 6 inches of fresh soil, and keeping the collar of the tree slightly elevated. We think, however, that on an east wall your trees will not produce fruit worth the trouble involved in the operation. You would not lose next season's crop.

DAMSON TREES UNFRUITFUL (Idem).—The closeness of your trees is sufficient to account for their not fruiting. If you were to thin them, replanting any you could remove with a good root, we think they would bear. Avoid pruning, though you may do so to a limited extent, confining it to such branches as cross each other, or are too close together.

HEATING A GREENHOUSE (An Old Subscriber).—Your cheapest mode would be to have in your 18-feet-wide greenhouse an iron or brick stove near the centre of the house, with the fire inside. The next cheapest, and better, would be to have a small stove, 9 inches deep, and 9 inches wide, outside measure, all round the house, missing the door; or, you could have a bed or stage on each side of the house, and one wide flue of 14 inches passing beneath the pathway, the top of the flue forming part of the pathway. If it were better that the chimney should be close to the furnace, then a flow-and-return small flue. This is a very neat and good plan, and no medium of heating is seen, as the pathway may be tiled or bricked, the same as the top of the flue.

GRAVES (Wyck Hill).—The soil is much too tenacious and wet. We recommend you to have the top spit of the entire border pared off and burnt. Mix the ashes thus obtained with twice the quantity of loam, such as the top spit from a pasture, and a bushel or two of crushed bones. Then remove the rest of the soil from the Vine-border until you come to the roots. Lift these to within 9 inches of the surface, and fill in above and below them with the mixture we have named. Do this during the present month. Injure the roots as little as may be, and watch over them during the summer.

SEEDLING GERANIUM (W. G. B.).—There is nothing remarkably excellent either in the single leaf or few tips you have sent. Habit, abundance, and durability of bloom—most important characters, cannot be judged of from such fragments. Any seedsmen can supply Fanny seed; but to be sure of having it from first-class flowers, you must save it yourself.

ROUGH PLATE GLASS (J. B.).—The chief advantage of rough plate for the roof of a greenhouse is, that you can dispense with shading in summer, and there is plenty of light for that purpose in winter. The front of the house may also be the same, if it is not desirable to look through it or see the plants from the outside. A plan often adopted is to have the roof rough plate or ground plate, and the front clear plate, which you can shade with a blind or otherwise in summer. A very good way of shading clear plate glass roofs is to have calico curtains put up inside, fastened with rings to hooks, where they remain from May to October, and, taken care of, the calico or gauze will last a number of years.

GLADIOLI FOR POT CULTURE (A Young Gardener).—A dozen good sorts are Ceres, Eugénie Vordier, Reine Victoria, Solferino, Rembrandt, Napoleon III., Cardinal, Dr. Lindley, Neptune, James Watt, John Waterer, and Goliath. A compost of turfy loam of medium texture, well-rotted manure, and river sand, in equal parts, well mixed, is excellent. Pot the bulbs about the middle of March, three in a nine-inch pot well drained, and with the crown an inch below the surface. Before planting "skin" the bulbs; plant on silver sand, and cover the crowns with the same. Place in a frame merely to protect them from cold rains and frost. The soil should be kept just sufficiently moist. In May plunge the pots to the rim in ashes in an open situation, and apply a dressing of one-third loam and two-thirds well-rotted manure, to the depth of an inch over the surface of the soil in the pots; give a second dressing in a month, and a third after a similar interval. Syringe every evening after May, and afford a good supply of manure water once a week in June and July, in addition to any watering that may be necessary. You may have to retard the bloom; if so, an awning of canvas will best serve your purpose. See that stagnant water does not lodge under the plunging material.

ASTERS IN POTS (Idem).—About the middle of March sow the seeds rather thinly in pans, and place these under a frame on a mild hotbed and near the glass. When up keep the young plants near the glass, and afford plenty of air. When they are large enough to handle, prick them off in pans, return them to the frame, and about the middle of May take up with good balls, and pot in their blooming pots, shading for a few days until established. Let the compost consist of the richest turfy loam which can be obtained, well-rotted manure, and sand in equal parts, and well drain the pots. Plunge in ashes in an open situation by the end of May, giving plenty of room. Syringe every evening, water when necessary, and liquid manure may be supplied alternately with pure water twice or thrice a week. Top-dressings of reduced manure are also good. A nine-inch pot is not too large for a plant.

PEACHES IN POTS UNDER VINES (Charles).—It is not desirable to grow Peaches in a house with Vines trained to the roof, nor can they be so grown successfully if the Vines cover the roof, the foliage meeting. If there is an interval of 8 feet 6 inches between the Vines, then you may succeed tolerably by placing the Peach trees in the centre between the Vines, but to do well the latter should not be nearer one another than 6 feet. You can have "The Orchard Manual," free by post, from our office, if you enclose thirty-two postage stamps with your address.

WINTERING CANNA ROOTS (Berke).—After a frost take up the roots and store them in sand in a place secure from frost. Pot them in February, and bring them forward in a gentle hotbed. Harden them off in May, and plant out in June. If you have a greenhouse and can find room for them, take up the plants and pot them in sandy loam, but do not cut off the tops until they decay. A temperature of from 45° to 50° is suitable.

HUMEA ELEGANS (Idem).—This plant is strictly a biennial, for though it may start a few weak shoots from the bottom, it only blooms once—in the second year, and is of no further utility.

PRUNING DATURAS (Idem).—The best time is in spring before placing them in heat.

WINTERING BEDDING GERANIUMS IN A CELLAR (Idem).—Take up the plants before they are injured by frost, pick off all the leaves, and pack the roots in dry sand. The plants should be taken up on a dry day and stored away at once, but a delay of a few days in doing this is not of consequence.

WINTERING BEDDING PLANTS IN FRAMES (Fred.).—The situation of your frames being warm and sheltered, and the bottom dry, you may safely employ them for the wintering of bedding plants, banking up the sides of the frames with ashes or dry earth before severe weather sets in. They will answer for Calceolarias, Verbenas, and Petunias, and, with care, for Pelargoniums also, these being more subject to damp. The Pelargoniums would winter better in the boxes they are in, the boxes being placed on the window-board and removed at night to a place of safety if the weather prove severe. Your plants, which have not yet rooted, should at once be potted and placed in a frame. You cannot winter them in the rooms on shelves about 2 feet from the ceiling. These would be too dark, and the kitchen shelves are too warm. The large plants of Tom Thumb and Bijou may be turned out of the pots, and the leaves having been stripped off, packed in sand in the dark cellar, but we fear Bijou will not winter well in that way. To do so it requires light, and to have all the leaves left on. The Calceolarias should be wintered in the frame; they may be turned out of the pots and planted in a compost of loam and leaf mould. They will thus winter as safely as cuttings; but old plants are not equal to those which are younger, either in size or continuance of bloom. "Flower Gardening for the Many," free by post for six postage stamps, from our office, would suit you.

EVERGREENS FOR A SOUTH-WEST WALL (Idem).—Bridgesia spicata Escallonia glandulosa, E. montevideensis, Embotrium coccineum Magnolia grandiflora, Exmouth var., Billardiera nuttallii, Cotoneaster Simonsii, Ceanothus Veitchianus, C. floribundus, Buddlea globosa, Raphiolepis ovata, and Garrya elliptica.

SELECT CAMELLIAS (E. B.).—Alba Plena and Imbricata, white; Storyi, dull crimson; Wilderi, deep rose; Bothwelliana, dark ruby red; Princess Bacchochi, scarlet.

NAMES OF FRUITS (B. A. P.).—1, Vicar of Winkfield; 2, Sans Pépins; 3, Suffolk Thorn; 4, Winter Nells; 7, White Doyenné; 10, Marie Louise. (K. H. A.).—Apples: 2, Kingston Black; 3, Golden Nonpareil; 4, Holland-bury; 6, Lemon Pippin; 7, Scarlet Nonpareil; 9, Springgrove Codlin; 10, Braiddick's Nonpareil. Pears: 1, Nouveau Poiteau; 2, Beurré Bosc; 3, White Doyenné; 4, Dunmore; 5, Brown Beurré. (An Old Subscriber).—1, Beurré Blanc des Capucines; 2, Doyenné Roux; 3, Baronne de Mello; 4, Urbaniste; 5, Winter Nells; 9, Yellow Ingestrie; 12, Biggs' Nonsuch.

(J. C. M.).—Apples: 1, Royal Russet; 2, Carel's Seedling; 3, Golden Pippin; 5, Ord's; 7, Blaindrop Pippin; 8, Beauty of Kent; 9, Holland, bury; 11, Herefordshire Pearmain; 13, Golden Nonpareil. Pear: Bourré de Caplaumont. (K.).—Pears: 1, Easter Beurré (S.); 3 and 4, Baronne de Mello (S.); 5, Bellissime d'Hiver (S.); 6, Sans Pépins (S.); 8, Beurré Bosc (W.). 1, Flemish Beauty (W.); 4, Van Mons Léon Leclerc (S.); 10, Shobden Court (E.); 13, Duchesse d'Angoulême (S.). Apples: 7, Blenheim Pippin; 8, Bedfordshire Foundling; 9, Lemon Pippin; 11, White Calville. (A Subscriber Learner).—Pears: 2, Sans Pépins; 3, Autumn Colmar; 6, Triomphe de Jodoigne; 7, Fondante d'Automne; 8, Passe Colmar; 9, Beurré d'Arenberg; 10, Colmar d'Arenberg; 11, Duchesse d'Angoulême; 14 and 18, Gansel's Bergamot; 17 and 23, Ne Plus Meuris; 19 and 28, Catillac; 30, Red Doyenné; 31, Beurré de Rance; 36 and 39, Brown Beurré; 37, Vicar of Winkfield; 38, Colmar d'Arenberg. Apples: 8, Lewis's Incomparable; 11, Pearson's Plate; 13, Red Astrachan; 15, Golden Russet; 21, Bedfordshire Foundling. (D. E. T.).—1, Baronne de Mello; 2, Beurré d'Arenberg; 3, Winter Nellis; 4, Easter Beurré.

NAMES OF PLANTS (*Ajazz*).—1, *Allanthus glandulosa*; 2, *Glyptostrobus pendulus*. (O. O.).—*Erigeron acris*. (*Rufus Rex*).—You must send better specimens.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending October 13th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun... 7	30.423	30.264	68	44	59½	58	N.E.	.00	Slight fog; overcast; easterly wind; sunless and damp.
Mon... 8	30.351	30.268	66	45	59	57	N.E.	.00	Partially overcast; fine, but with little dryness in the air.
Tues... 9	30.177	30.000	59	45	59	57	N.E.	.00	Overcast; fine, with cool N.E. wind; overcast.
Wed... 10	30.012	29.928	66	39	59	57	N.E.	.00	Overcast; fine; overcast; cold at night.
Thurs... 11	30.002	29.987	59	34	58	56	E.	.00	Fine, but cold; dry cold haze; fine; cold at night.
Fri... 12	29.977	29.983	49	29	58	57	E.	.00	Cold dew; fine; overcast; very fine; below freezing at night.
Sat... 13	29.917	29.854	62	40	56	56	S.W.	.06	Foggy; very fine; foggy; rain at night.
Mean	30.123	29.942	61.14	39.48	58.36	57.14	..	0.06	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

OUR POULTRY SUPPLY.

"THERE must be more attention paid to poultry." That is heard everywhere. It has become part of the food question, and that is irrepensible, to use the language of the present day. There is nothing new to be said about it; but opportunity will sometimes gain that which is refused to common sense or sound argument. Poultry suffers in two ways. Injudicious friends call fowls pets, dears, and darlings; unthinking enemies call them pests, plagues, and nasty brutes. They are neither one nor the other. They are most valuable adjuncts to the table, they are most acceptable to the invalid, and they are fast claiming the attention of the political economist.

The estimated value of the poultry stock in France is eight millions sterling. This is not guess work, it is the plain statement of official statistics. Our importation of eggs now greatly exceeds a million daily. Although we are apt to attribute vast importance to poultry, yet our ideas are not confined to it as a hobby, we view it as a food-producer. The high price of meat is not alone caused by the rinderpest, it is the result of consumption and demand. The latter is getting a-head of the supply, and some who are competent judges say the supply cannot be increased. Then we must either produce more or enlarge the capabilities of that which we have, by making the same quantity feed more mouths. Much has been done of late in the way of increasing the quantity. The amount of food consumed has returned double by being given to birds of greater capabilities in the way of fattening, and of larger growth and weight. This, however, is not enough; the number requires to be increased, and artificial means must be used; seasons must be overcome, and appliances used that will make every month a hatching month. The supply of poultry that is now a monopoly of Sussex, Surrey, and parts of Kent, should be general throughout the kingdom. Good young poultry should, in the spring months, be within the reach of those who can afford to eat it without paying a famine price. The difficulty of obtaining broody hens has hitherto been almost insurmountable; that is now overcome by means of incubators and artificial mothers, which succeed admirably, and which may enable us to have relays of chickens ready for every month in the year. Fowls have no seasons, eggs are laid all the year round, and they may be reared. It may be said that in the winter there will be difficulty in rearing; but we know there will be very little. The same perfection is not required for the table as for the exhibition pen. All that is necessary is to produce a quantity of young, tender, and nourishing food. Deficient claws, faulty plumage, objectionable combs, even a perceptible cross, are unimportant.

It is a fact, that since the beginning of what was mis-termed the poultry mania, the supply of poultry has decreased in the London market. In our next we will inquire into the causes, and endeavour to find a remedy.

FURTHER REMARKS ON "THE STANDARD OF EXCELLENCE."

I HAVE read with great interest the criticisms of "NEW-MARKET," upon "The Standard of Excellence," and, doubtless, the compilers of that work will, in a future edition, gladly avail themselves of the remarks of one who clearly knows what Game fowls ought to be.

The subject having been thus opened, I should like to add a few words. I have puzzled many times, always liking to find a reason for everything, over the arrangement of "The Standard," I mean over the order in which the varieties are named. Cochins, Brahmas, and Malays come first. I said to myself, "Ah! I see—size, rules," but, no, for here come next Game and Dorkings; then follow Hamburgs and Spanish. Well, Spanish usually appear as Class 1 in shows, a compliment, perhaps, to the Spanish Hidalgo, who claim to have the bluest blood in Europe; then follow Polish and Bantams, size, again, perhaps, placing the little Bantam last; but read over the arrangement and you will see neither size alone, nor profitability, nor ancient lineage, nor beauty of feather, have determined the order in which the fowls are arranged.

Following the fowls come Ducks, Geese, and Turkeys. Well, clearly a Turkey is a more honourable bird than either a Goose or a Duck, and a bigger bird too. Surely the cock Turkey will utter a vengeful "gobble, gobble," at seeing himself put last. The arrangement being guided by no perceivable principle, I am led to fancy that the wind scattered the sheets, and they were arranged by the printer as they happened to be picked up.

Clearly the alphabetical order would have been the best, for it would, as always, have caused the book to be more easily referred to. Let me, then, suggest this alteration. I have a further remark to make: Only nine varieties of fowls are mentioned in "The Standard," upwards of twenty varieties being omitted. I own some of these are rarely seen, but a few words surely should have been given on every variety, and something said in order to guide the owners of them as to the birds most suited for exhibition.

I sincerely hope that our poultry shows will not be limited to the nine varieties named in "The Standard." The interest of a show is greatly heightened by the presence of Andalusians, Silkies, Bakes, Frizzled, &c. We also like, naturally, to see again such old friends as Booted, Partridge, and Nankin Bantams; and rely upon it, the non-poultry world would rather pay to see new varieties, such as Houdans, Crève Cœur, and La Flèche, than the best specimens of Spanish, for it thinks all Spanish alike, one as good as another. Variety is a point we should aim at if we are to make shows popular and paying. The sea-bear at the Zoological Gardens is not so handsome as a lion or a tiger, but being new, people who are tired of lions and tigers willingly pay a shilling to see him.

One last remark. "The Standard" contains but fifty-six widely-printed pages, and costs 5s. This exorbitant price will injure the circulation of the book, and prevent humble fanciers and exhibitors (this I know for a fact), knowing the required

points, by the possession of which knowledge they can alone insure a hope for success. These are days of cheap papers and cheap books. I venture to hope, therefore, that we shall soon see a new edition of "The Standard," better arranged, more correct, much enlarged, and much cheaper. "The Standard" is excellent, but not excellence itself.—WILTSHIRE RECTOR.

RAILWAY CHARGES.

THE ACCOUNT OF THE STEWARDSHIP.

IN accordance with my promise a few weeks ago, I proceed to give an account of the expenses, &c., incurred in this matter. I may premise that the postage and parcel expenses are larger than they would have been if exhibitors and officials of shows had kindly answered my first applications, but in several cases of well-known exhibitors I applied twice, and in some cases three times, alas, without even the courtesy of a reply! Then as regarded the returns that did arrive, some were so late that I had to write or send to the printer, altering matters, &c. I have, however, gone to work as economically as I could, and we have not yet "outrun the constable." It will be seen by the lists of paid subscriptions which have already appeared, that we had to open the campaign the sum of £24 14s. We have expended, as under, the sum of £16 12s. 6d., leaving us a balance in hand of £8 1s. 6d.

I am endeavouring to get the meeting of railway managers to receive a deputation; the balance would help to pay the expenses of such deputation.

Meanwhile it appears to me we must throw the burthen of agitation more on the committees of exhibitions; it is a point of vital importance to the great majority. Exhibitions cannot be held if exhibitors stand aloof, and a great number of us cannot go on at the present rates entering to the amount we otherwise should. One well-known successful exhibitor has written me since the decision of the railway authorities, stating that its effect on his entries would be to diminish them by one-half. It is certain to have the same effect in a greater or less degree on many others. It has already decided me against some eight or ten entries during the past month. We must each of us press this home on the committees of the shows. I have already replied to the authorities of several exhibitions, where I should have liked to have exhibited, that but for the railway expenses I should have been a competitor.

There is one plan open to all exhibitions, which I earnestly commend, and I feel confident it would be successful. When a show is proposed to be held, let the committee wait on the railway authorities of the locality, stating that they meditate holding a poultry exhibition, but that before the decision is made they wish to know what alleviation of the heavy railway charges the company intends to make, and that without some reduction they will decide against holding any exhibition at all. Does anybody doubt what the reply would be to the Committee of the Birmingham Show if they adopted this plan?

To my fellow exhibitors I would say, that if they feel that the present rates do prevent their entries, it is not much trouble to press the point on the Secretary as a reason for not entering; it is no great trouble or expense, and the drop-by-drop system must be felt in the long run. If we content ourselves by muttering over our grievances, railways and show committees will be no wiser, and certainly not more lenient than they are now; and some of us, especially those indebted (?) to G. W. R., know something about what that leniency means in the matter of poultry—very often 50 per cent. extra!—JOSEPH HINTON (Y. B. A. Z.).

	£ s. d.
Amount received from exhibitors, &c.....	24 14 0
Expenses incurred by Mr. Hinton.....	16 12 6
Balance in hand	8 1 6

G. W. J., Treasurer.]

EXORBITANT CHARGES FOR PIGEONS ON RETURN JOURNEY.

I WAS glad to see the letter signed "MAURICO," in reference to the heavy charges of railway companies for poultry. I sent six pence of Pigeons to the Keighley Show, paying 2s. 6d. carriage; on the return journey they were charged 10s. This is far in excess of the charge your other correspondent com-

* Since my last there has been a reply from one Association, with several signatures, kept nearly two months!

plaints of. I have seen the railway authorities, and they admit the overcharge, and up to the present moment they have not refunded me one farthing, although several personal applications have been made. The amount I consider only nominal, but upon principle we ought to have satisfaction upon these matters for the public benefit.—F. WAITT, Richmond Villa, Clifton Road, Sparkbrook, Birmingham.

INFLATED SPANISH CHICKENS.

I HAVE read with some degree of interest the account given at page 267, by "J. D. S.," respecting the formation of large air-bladders in a Black Spanish cockerel.

I have had a large number of Spanish chickens, and very frequently had cases of a precisely similar character, and I always found the air-bladders form when the chickens were from three weeks to two months old. When so affected, I let the air out with a fine-pointed needle; this may require doing two or three times, but I do not remember a single instance of finding any fluid secreted under the skin. I am inclined to believe that it arises from weakness, probably caused by overgrowth, and strongly recommend feeding on oatmeal-paste made up with milk, and once during the day to give a feed of whole barley, if the chicks are old enough; if not, let bran and barley meal be well mixed together, using boiling water. Let the chicks run out during the day, if fine, but care must be taken that their house be kept dry, warm, and clean. I do not recollect losing a single chicken from this extraordinary disease, though great care is necessary. Spanish is the only breed I ever found to suffer from it.—G. C. W.

ORNAMENTAL AND NON-ORNAMENTAL POULTRY.

I WILL enumerate what are considered by some breeders as the most ornamental poultry. 1st, Game fowls, the handsomest, and the best layers of all. 2nd, Bantams, especially Game Bantams, prolific. 3rd, The Polish, handsome and prolific. 4th, Peafowl, very beautiful, though not prolific. 5th, Guinea Fowls, handsome and prolific. 6th, Pigeons, handsome and prolific.

Aquatic fowls, ornamental for water.—1st, Swans, very ornamental, but not prolific. 2nd, Ducks, handsome and prolific.

Peafowls are, perhaps, more beautiful than any; and of the smaller kinds Game are, of course, much the handsomest. Bantams stand next to them in true beauty. Polish fowls possess great beauty, being crested. Guinea Fowls are considered ornamental by a few. Pigeons are very beautiful in some of their varieties. Of Swans, the large white Swan is most ornamental. Ducks are very ornamental in some of the varieties.

NON-ORNAMENTAL FOWLS, AND THEIR QUALITIES.

DORKINGS.—These are said to be the best of all poultry for table and for farmyard produce. They are certainly large, and white-fleshed for table use, and these are really their only good qualities. They are ugly, heavy, and clumsy birds. Their flesh is insipid as compared to that of the Game fowls, and, though superior in quantity, is far inferior in quality to the Game. The Grey Dorkings are the largest, strongest, and hardiest sort, but they are the worst layers of all. The White, Speckled, and others are better layers, though smaller and less hardy birds. Dorkings are all decidedly bad layers. The White-legged breeds of the Game fowls, bred large, would far surpass Dorkings as farmyard fowls, being far better layers, and their flavour far superior for table.

SPANISH.—These are prolific, but possess no great beauty, and are of a tender constitution. They lay the largest eggs of any for their size. Flesh more insipid than that of the Game fowls.

COCHIN-CHINAS, BRAHMA POOTRAS, and SHANGHAES stand next, and are large, awkward, clumsy, ugly, heavy birds, and all of Eastern origin. Shanghaes are the Cochin-Chinas of China proper. Brahma Pootras are the Cochin-Chinas of India, Cochin-Chinas, the Cochin-Chinese bird. Shanghaes, being of more northern origin, are hardiest. Brahma Pootras are rather the least hardy of the three. All these birds are prolific, their only good quality. They also possess a certain hardness, but much dislike cold weather. They are quite unfit for table, being coarse and yellow-fleshed, with too much offal, and too large in their proportion of limbs for table fowls. They have been, like Dorkings, too much cried up; but the Dorking's

popularity will probably last longer than that of these birds. The Shanghaes and Brahma Pootras are of all the colours of the Cochin-Chinas, and the large Black Brahma Pootras are the largest birds of the whole tribe, but are not common.

HAMBURGERS.—These are by some breeders considered as ornamental poultry, but their beauty is so far eclipsed by that of the Game fowls and the Bantams, that they can hardly be considered as ornamental poultry. They are prolific birds, but of rather a delicate constitution, like the Spanish, and their flesh is more insipid than that of Game fowls.

MALAYS are great, ugly, heavy, clumsy birds, only moderately prolific, and quite unfit for table, being coarse and yellow in their flesh. Malays are tolerably hardy, but dislike cold.

TURKEYS and **GESE**, though of course profitable, are about the ugliest of all poultry.

The word "eyes" was omitted in the commencement of the description of the colour of the Malay cock in page 267.—**NEWMARKET.**

FARNWORTH (CHAPELRY) AGRICULTURAL SOCIETY'S POULTRY SHOW.

THE second annual Exhibition of this Society was held at Farnworth on Thursday the 4th inst. The display of poultry was large and good, every class being well represented. The whole of the arrangements of the Committee and Mr. Moss, the Secretary, were most efficiently carried out, and the Exhibition was a complete success in every respect, a particularly fine day contributing in no small degree to this result. We believe that it is intended greatly to increase the prize list for next year, and we doubt not Farnworth Show will then take a high position amongst our annual Exhibitions.

The Game classes were large, the first prize for a cockerel and pullet went to good Black Reds, and the second to Brown Reds. Duckwings had the prizes in the other class, and for a single cockerel the cup was won by a splendid Black Red, which also gained the cup for the best pen of Game in the three classes. *Duckings* were excellent, and the competition was close, but of *Spaniels* there was not a large entry. *Cochins* made two excellent classes. In that for Buffs the Hon. Mrs. Sugden won the cup with a very fine pen, which changed owners at £15 15s. The Partridge-coloured birds were also of great merit, Mr. Rodbard, of Bristol, adding to his previous victories this season in a close competition with Mr. Tudman. *Hamburgs* were not largely shown, but each class contained first-class pens of the particular variety. The cup was awarded to Mr. Jackson's first-prize Silver-spangled, the pullet in this pen, although young, being of great excellence. *Polands* were more numerous than usual. Silvers had the first prize, and White-crested Black were second. In *Brahmas* Mr. Pickles took both prizes with dark birds. There was a keen competition in *Game Bantams*. Mr. Crossland was first in each of the three classes; the cup was given to a beautiful pen of Black Reds. A first-rate Black Red was disqualified for having the points of the wings clipped. The first Duckwings were the best we ever saw.

The Rouen and Aylesbury Duck classes were each well filled. In the latter Mr. Leach again held the pre-eminence, and Mr. Fowler, like Mrs. Seamons at a previous Exhibition, failed to accomplish his overthrow.

CHICKENS.

GAME (Black or Brown-breasted Reds).—First, H. Beldon, Bingley, Yorkshire (Red Game). Second, J. Woods, Haigh, near Wigan (Brown-breasted Red). Highly Commended, Capt. Henton, Lower Broughton, Manchester.

GAME (Any other variety).—First, J. Halsall (Duckwing). Second, J. Frith, Ellen's Grove, Halifax (Duckwing).

GAME (Any colour).—*Single Cockerel*.—Cup, and also Cup for the best pen of Game in the Show, H. Snowden, Great Horton, Bradford. Second, J. Woods (Brown-breasted Red). Highly Commended, J. B. Prinder Harpurley (Duckwing).

DUCKINGS.—Cup, J. Stott, Healey, Rochdale. Second, D. Parsons, Cuderton, near Preston (Silver-Grey). Highly Commended, A. Fenton, Crimble Hall, Rochdale; J. F. Newton, Kirkby-by-Cleveland, Yorkshire. Commended, Mrs. Arkwright, Etwell Hall, Derby (Coloured).

SPANISH.—Cup, W. Roberts, jun. (Black). Second, N. Cook, Chowbent (Black). Highly Commended, J. H. Bea, Hull; H. Beldon.

COCHIN-CHINA (Cinnamon or Buff).—Cup and Second, Hon. Mrs. Sugden, Stapleford House (Buff). Highly Commended, Captain Henton; A. Fenton; C. Jennison, Belle Vue Gardens. Commended, C. Jennison.

COCHIN-CHINA (Any other variety).—First, J. R. Rodbard, Wington, Bristol (Partridge). Second, E. Tudman, Whitechurch, Salep (Partridge). Highly Commended, E. Tudman. Commended, T. Bott, Bury.

HAMBURGERS (Golden-pencilled).—First, H. Beldon. Second, C. Tattersall, Waterfoot, Manchester. Highly Commended, W. H. Mort, Moss Pitt House, near Stafford; H. Beldon. Commended, W. Parr, Patricroft.

HAMBURGERS (Silver-pencilled).—First, H. Beldon. Second, J. P. Dean. Highly Commended, A. Woods.

HAMBURGERS (Golden-spangled).—First, T. Walker, Denton. Second, J. Chaderton, Hollingwood. Highly Commended, S. & R. Ashton, Mottram; T. Scholes, near Hollingwood. Commended, J. Roe, Hadfield, Manchester; H. Beldon.

HAMBURGERS (Silver-spangled).—Cup, J. Jackson, Garden Street, Bury. Second, H. Beldon. Highly Commended, R. Edmundson, Heatley; H. Beldon.

POLADES.—First, H. Beldon (Silver). Second, S. Farrington, Chat Moss (White-crested Black). Highly Commended, T. J. Lancashire, Butts

House, Leigh (Black); P. Unsworth, Lowton (White-crested); J. Halsall, Wigan.

BRABMA POOTRA (Any colour).—First and Second, J. H. Pickles, Tedmorton (Dark). Highly Commended, G. H. Roberts, Penwortham, Preston (Dark); J. E. Fowler, Prebendal Farm, Aylesbury; G. H. Wheeler Middleton, Manchester.

BANTAMS (Black or Brown-breasted Red).—Cup, J. Crossland, jun., Wakefield (Black Red). Second, J. Holmes, Knowsley (Black Red Game). Highly Commended, R. Charlesworth, Brook's Bar, Manchester. Commended, Rev. W. J. Mellor, Colwich Rectory, Notts (Black Red).

GAME BANTAMS (Any other variety).—First, J. Crossland, jun. (Duckwing). Second, B. Parsonage, Sankey (Pile).

BANTAMS (Any breed).—Medal, S. & R. Ashton, Mottram (Silver-laced). Second, T. Davies, Belmont Cottage, Newport (Black). Highly Commended, W. McMillan, Glossop, Derbyshire (White). Commended, S. Farrington (Laced).

GAME BANTAMS (Any colour).—*Single Cockerel*.—Medal, J. Crossland. Second, R. Charlesworth.

SELLING CLASS.—First, J. Jackson, Bury (Game). Second, S. & R. Ashton (Silver-pencilled Hamburgs). Highly Commended, S. Farrington (Polands, Golden).

DUCKS (Rouen).—First, J. Coppie, Eccleston, Prescott. Second, H. J. Gladstone, Broadgreen. Highly Commended, J. Halsall; J. Robinson.

DUCKS (Aylesbury).—First and Second, E. Leech, Greaves House Rochdale. Highly Commended, J. K. Fowler.

DUCKS (Any other variety).—First, E. Longton. Second, J. K. Fowler. Highly Commended, Mrs. E. Mather, Ood Mawr, Conway (Summer Ducks); J. Halsall (Call Ducks); O. Martin, Fairfield Crescent, Liverpool; J. K. Fowler (East India).

GESE.—First, W. Gamon, Thornton, Chester. Second, T. Burgess, Whitechurch, Salep (White). Highly Commended, Mrs. M. Seamons; J. Southern, Culcheth (White); J. Coppie.

TURKEYS.—First, E. Leech. Second, S. H. Stott, Quarryhill, Rochdale. Highly Commended, J. Beesley, Farnworth.

PIGEONS.—*Isabels* (Silver).—Prize, Rt. Hon. Countess of Derby. *Barbaries*.—Prize, B. Parsonage, Sankey. *Turbits*.—Prize, Rev. W. J. Mellor. *Barbs* (Black).—Prize, E. Garside, Smallbridge. *Baldpates*.—Prize, H. Deacon, Widnes.

RABBITS.—First, J. Lucas, Wet Rake, Rochdale (Angora Buck). Second, D. Dale, Farnworth (Grey Buck).

The Judges were Mr. Joseph Hindson, Barton House, Everton, Liverpool, and Mr. Richard Teebay, Fulwood, Preston.

LEICESTER POULTRY AND PIGEON SHOW.

THIS Show of poultry proved far better than expected, particularly when it is borne in mind that the Long Sutton Show and also that at Peterborough were both of them fixed for the following day. That from this cause the entries were somewhat lessened in number there cannot be a doubt; but the quality of the poultry, as a whole, was a matter of general congratulation at Leicester. The day proved very fine, though ample provision had been made for the welfare of the poultry had rain come on. The management was good, and the well-known exhibition pens of Messrs. Turner, of Sheffield, showed off the birds to the greatest possible advantage.

The Grey *Dorking* chickens were particularly good, and in this class were shown some superior Silver-Greys. The quality of the *Spaniel* fowls was excellent, but most of them as yet have hardly attained full feather. Singularly enough, only one pen of adult Partridge-feathered *Cochins* was exhibited, and they were very fair specimens. The Buff *Cochin* chickens, also the White ones, were very good; the adult White *Cochins* were, however, so deficient that the first prize was withheld. As might be anticipated, most of the old *Game* fowls were sadly out of feather; but several very excellent pens of chickens were shown in capital condition. It should be always remembered by exhibitors that where separate classes are allotted them, chickens are inadmissible in the class for old birds. The neglect of this simple rule caused disqualification to pens in themselves meritorious. In *Hamburgs* the Golden-spangled proved most perfect, and the Silver-spangled were next in order of merit. Some good Black and Gold-laced *Bantams* were shown, but the Game Bantam class was not nearly so good as usual.

The Aylesbury Ducks were remarkably good throughout, and many pens of Rouens were also praiseworthy. The matching of the pens of *Geese* and *Turkeys* seemed to have been neglected altogether, though owners should bear in mind that in cases of anything like close competition, such want of similarity of plumage must prove fatal to success. A Canadian Goose, shown as extra stock, attracted much attention from visitors.

The Pigeon classes were a very strong feature of the Leicester Show, scarcely an indifferent pen being present, and the class for Extra varieties of Pigeons was strong and excellent throughout. In this class some unusually good Yellow *Barbs* were exhibited, taking the first prize, and a pen of Black Owls most deservedly obtained second honours.

Great attention was paid to the poultry, and the whole of the birds seemed to be perfectly healthy.

DUCKING.—Prize, W. T. Everard, Alton Grange. *Chickens*.—First, H. Warner, Loughborough. Second, W. T. Everard. Highly Commended, Sir A. G. Hazlerigg, Bart. Commended, H. Warner.

SPANISH.—First, N. Whitechurch, Malton Mowkay. Second, S. Mills, jun., Walsall. *Chickens*.—First, S. Mills, jun. Second, N. Whitechurch.

COCHIN-CHINA (Any colour).—Prize, S. Mills, jun. *Chickens*.—First, H. Warner. Second, E. H. Griffin, Barking.

COCHIN-CHINA (White).—Prize, Mrs. Williamson, Queenborough. *Chickens*.—First and Second, Mrs. Williamson.
GAME (Black-breasted and other Reds).—First, H. Warner. Second, W. T. Everard. *Chickens*.—First, W. T. Everard. Second, H. Warner.
GAME (White, Piles or any other colour).—First, W. T. Everard. Second, H. Warner. *Chickens*.—First and Second, H. Warner.
HAMBURGH (Golden-spangled).—Prize, H. E. Emberlin, Humberstone. *Chickens*.—Prize, H. E. Emberlin.
HAMBURGH (Silver-spangled).—Prize, J. Houghton, Asfordby. *Chickens*.—First and Second, J. Houghton.
BANTAMS (Gold-laced).—First, H. Draycott, Humberstone. Second, Lady Berners, Keythorpe Hall.
BANTAMS (Clean legged).—First and Second, H. Draycott. Commended, H. E. Emberlin.
BANTAMS (Black, clean-legged).—First and Second, H. Draycott.
GAME BANTAMS (Black-breasted and other Reds).—First, S. Mills, jun. Second, H. Warner.
DUCKS (Aylesbury).—First, H. E. Emberlin. Second and Highly Commended, W. Carver.
DUCKS (Rouen).—First, J. Wright, Sysonby Lodge. Second, H. Warner.
TURKEYS.—Prize, A. Guy, Eaton.
GESE.—Prize, G. Cooper, Seagrave.

PIGEONS.

CARRIERS.—First and Second, G. Sturgess, Leicester. Highly Commended, H. Draycott. Commended, F. W. Montgomery, Walsgrave.
TURBITS.—First, F. W. Montgomery. Second, H. Draycott. Highly Commended, H. E. Emberlin.
POWERS.—First, H. Draycott. Second, H. E. Emberlin.
RUNTS.—Prize, F. W. Montgomery.
JACOBIANS.—First and Second, G. Sturgess.
FANTAILS.—First, H. E. Emberlin. Second, G. Sturgess.
MAGPIES.—First, G. Sturgess. Second, H. E. Emberlin. Highly Commended, G. Sturgess.
ANY OTHER VARIETY.—First and Second, G. Sturgess (Yellow Barbs, Black Owls). Highly Commended, F. W. Montgomery (Black Barbs, Mottled Trumpeters). Commended, W. P. Cox, Leicester (Blue Dragons).
RABBITS.—*Heaviest Weight.*—First, H. Draycott. Second, H. Warner. *Greatest length of Ear.*—First and Second, H. Draycott. *Any other kind.*—Prize, W. P. Cox.
SWEETFAKE, SINGLE GAME COCK.—Prize, W. T. Everard.

Edward Hewitt, Esq., of Eden Cottage, Sparkbrook, officiated as Arbitrator.

LONG SUTTON POULTRY SHOW.

(From a Correspondent.)

THE second annual Exhibition of this flourishing Association was held on Wednesday last, when, owing to the liberal prize list, the birds of all the greatest exhibitors were brought into competition. The Show was held in a large marquee close to the railway station. The Committee had engaged Turner's excellent pens, but owing to some shameful neglect on the part of the railway company the pens did not arrive, and at the last moment the Committee found themselves obliged to erect the best pens they could. Every one worked with a will, and in one day upwards of three hundred pens were put up, and the Show opened at the appointed hour.

As before stated, the prize list was most liberal, no less than eight cups being offered for competition. *Dorkings* stood first, Mr. Clarke winning with an excellent pen containing two hens that will be hard to beat at any show. The cup went to capital chickens belonging to Mrs. Bailey, of Shooter's Hill. In *Cochins* Captain Heaton carried all before him, winning first in both classes, and also the cup for the best pen. The Captain's birds were in wonderful feather and condition for the season. There was a large entry of *Game*, but many of the best birds, including those of Sir St. George Gore, arrived too late for competition. Mr. Smith, of Grantham, won the cup, but we also noticed a beautiful pen of Black Red chickens belonging to Mr. Beldon closely contesting that honour. The cup for *Game Bantams* went to a nice pen from Manchester, exhibited by Mr. Charlesworth. Mr. Beldon won the cup for *Spanish* with remarkably good birds, beating Mr. Rodbard, who was second. In *Hamburgs* Mr. Beldon had his usual success, winning three prizes out of the four. In *Brahmas* Mr. Boyle's chickens well deserved their honours, though hard pressed by Mr. Pickles. In the *Any other variety* class Colonel Stuart Wortley was first with *Crève Coeurs*, the National Poultry Company being second with *Houdans*.

The collection of *Pigeons* was one of the best we have seen for some time. In *Carriers* well-known Manchester birds stood first, the fortunate owner now being Mr. Crossley, of Halifax, who also won with *Powers* and *Black Owls*, the latter being perhaps the best birds of their class that have been out for some time. We were much struck with Mr. Horner's *Carriers*, which, as a pen, are perhaps more perfect than the winners, the cock in the first-prize pen being very inferior to the hen. Mr. Thackray, of York, sent some excellent birds, particularly *Barbs*, but they arrived too late for competition. In *Jacobins* Mr. Horner was first with his splendid birds, Mr. Beldon pressing him closely.

A more indefatigable Secretary or Committee could not be found, and the greatest attention was paid to the birds entrusted to their care.

DORKINGS.—Local Cup and First, G. Clarke, Long Sutton. Second, H. Lingwood, Barking, Needham Market. *Chickens*.—Local Cup and First, Mrs. Bailey, Shooter's Hill, Longton, Staffordshire. Second, F. W. Zurborst, Bevilley, Donnybrook. Highly Commended, Mrs. J. A. Clarke, Long Sutton. Commended, Mrs. J. Clarke.

COCHIN-CHINA (Buff).—Cup and First, Capt. Heaton, Lower Broughton, Manchester. Second, H. Mapplebeck, Woodfield, Moseley, Birmingham. Highly Commended, H. Lingwood.

COCHIN-CHINA (Any other variety).—First, Capt. Heaton (Partridge). Second, H. Lingwood, Bucklesham Mill, Newbourn, Woodbridge (Partridge). Highly Commended, Rev. C. H. Lucas, The Rectory, Edith Weston, Stamford (White). Commended, J. O. Cooper, Cooper Hill, Limerick (Partridge); J. Clarke (White).

GAME (Black-breasted and other Reds).—Cup and First, J. Smith, Grantham. Second, F. J. Astbury, Manchester.

GAME (Any other variety).—First, R. Pashley, Harness Drove, Worksop. Second, E. Toder, Little Carlton, Newark, Notts (White).

GAME BANTAMS (Any variety).—Cup and First, R. Charlesworth, Manchester. Second, J. W. Morris, Rochdale. Highly Commended, W. Newsome. Commended, Capt. Heaton; F. L. Roy, jun., Nenthorpe, Kelso, N.B.

BANTAMS (Any other variety).—First, F. L. Roy, jun. (Silver-laced Sebright). Second, J. W. Morris (Black). Highly Commended, E. Cambridge, Bristol (White).

SPANISH.—Cup and First, H. Beldon, Bingley, York. Second, J. E. Rodbard, Aldwick Court, Winton, near Bristol. Highly Commended, W. H. Walker, Shenfield, Brentwood.

HAMBURGH (Gold or Silver-spangled).—First, H. Beldon. Second, Messrs. S. & R. Ashton, Mottram, Manchester.

HAMBURGH (Gold or Silver-pencilled).—First and Second, H. Beldon. Highly Commended, E. W. Berry, Sutton, Isle of Ely.

BRAHMA POOTRA (Light or Dark).—First, R. W. Boyle, Bray, Co. Wicklow, Ireland. Second, J. H. Pickles, Todmorden.

ANY OTHER PURE BREED.—First, Col. Stuart Wortley, Grove End Road, London. Second, The National Poultry Company, Bromley (Houdan). Highly Commended, H. Beldon.

TURKEYS.—First, J. Smith. Second, J. C. Cooper. Commended Mrs. Cragg, Sutton St. James.

DUCKS.—First, Mrs. J. M. Dring, Long Sutton. Second, Mrs. J. A. Clarke (Rouen). Highly Commended, T. C. Harrison, Hull (Brown Call). Commended, P. Hutchinson, Spalding (Call Ducks).

DUCKLINGS (Any variety).—First, J. H. Ivimey, Dorking (Aylesbury). Second, J. W. Harrison (Houen). Very Highly Commended, H. Saville, Ollerton, Notts (Carolina). Commended, J. C. Cooper (Rouen).

GESE (Any variety).—First, J. C. Cooper (Toulouse). Second, Mrs. Brackenbury, Downham (White). Highly Commended, J. C. Cooper (White). *Geolings.*—First, Rev. W. J. Mellor, Colwich Rectory, Nottingham. Second, Mrs. Brackenbury (White). Highly Commended, J. Smith. Commended, H. Saville (Sebastopol).

SELLING CLASS.—First, E. Gregory, Leverington (Cochin). Second, The National Poultry Company (Crève Coeur). Very Highly Commended, G. Lee, Dawesmere, Long Sutton (Brown Red Game). Commended, G. P. Hobson, Sutton Marsh (Spanish); Mrs. J. A. Clarke (Dorking); Mrs. Brackenbury (Rose-comb Coloured Dorkings).

PIGEONS.

CARRIERS (Black).—First and Cup, F. Crossley, Elland, Yorkshire. Second, T. Colley, Sheffield. Highly Commended, T. Colley. Commended, J. Firth, jun., Dewsbury.

CARRIERS (Dun).—First and Second, T. Colley.

POWERS.—First and Cup, F. Crossley. Second, R. Fulton, Deptford. Highly Commended, E. Horner, Harewood, Leeds.

TURBILES.—First and Second, R. Fulton.

BARBS.—First, J. Firth, jun. Second, R. Fulton. Highly Commended, H. Yardley, Birmingham.

JACOBIANS.—First, E. Horner. Second, H. Beldon. Highly Commended, Messrs. Grant & Tomlinson, Thorne, York; J. Percival, Peckham Rye. Commended, E. Horner.

TURBITS.—First, F. Elze, Bayswater, London. Second, The National Poultry Company, Bromley, Kent. Highly Commended, H. Snaishall, Gedgey. Commended, H. Beldon.

FANTAILS.—First, J. Walker, Newark. Second, F. Elze. Highly Commended, J. Taylor, Newark; H. Yardley. Commended, The National Poultry Company.

ANY OTHER VARIETY.—First, F. Crossley (Black Owls). Second, J. Firth, jun. Very Highly Commended, H. Beldon; J. J. H. Stockall, Liverpool (Siberian Ice). Highly Commended, E. Horner; M. J. Percival (Swallows). Commended, J. Walker (Blue Dragons); H. Yardley.

SELLING CLASS.—First, The National Poultry Company (Hyacinths). Second, F. Crossley (White Dragons). Very Highly Commended, R. Fulton (Magpies). Commended, H. Beldon.

RABBITS.—First, Master J. Stevenson, Dawesmere, Long Sutton. Second, C. Graville, jun., Thorne, Doncaster. Very Highly Commended, Messrs. J. T. & R. S. Codling, Whapode. Highly Commended, W. Newsome, Leeds; H. Yardley. Commended, T. M. Derry, Gedgey.

RABBITS (Heaviest).—First, J. Jealous, Gedgey Hill. Second, G. Cole, Long Sutton. Commended, W. Allen, Long Sutton.

Mathew Hedley, Esq., of Red Hill, and Samuel Burn, Esq., Whitby, acted as Judges, and their awards gave great satisfaction.

PETERBOROUGH POULTRY SHOW.

THIS Exhibition formed part of the annual meeting of the Peterborough Agricultural Society held on Wednesday, the 10th inst. Placed as it unfortunately was, with the Long Sutton Show on the same day, and the Leicester Show on the one previous, it could hardly be supposed that this Exhibition would not suffer. The result proved that a very limited entry was secured; and again, from the extremely protracted moulting time this season, the number of pens that had been duly entered and could not be sent was greater than usual: consequently the Show was one of the most limited we have met with for a long time past. This is the more to be regretted, as the Committee had made every preparation for the comfort of the birds confided to them. An excellent and roomy tent was provided, and the pens were large and commodious. As the weather luckily proved settled and fine, there was not, however, any lack of visitors, and the poultry tent proved one of the most interesting portions of the Show ground.

The *Grey Dorkings* were the best classes in the Exhibition, and here Mr. Longland exhibited some remarkably fine specimens. Among the *Dorkings* were also shown some *Silver-Greys* of excellent quality. The *Game* classes were, with the exception of one or two pens, a failure;

and the *Cochins* proved so indifferent, that a second prize was withheld. Some very nice Golden-spangled *Hamburgs* were shown, but the Pencilled ones were sadly below par. In the *Bantams*, all varieties competing, the Black-breasted Red Game Bantams secured all three prizes. Strange to say, in a class for Mixed breeds, any age or colour, only two entries were made, though four premiums were offered in the prize schedule. The first-prize pen, Silver-spangled *Polands*, was really good, but the other so far below excellence that the fourth prize alone was allotted it.

The class for *Turkeys* was good, and that for *Geese* not less so; but exhibitors must remember, in order to be successful, that an exhibition pen of any poultry must match in feather. Better *Aylesbury Ducks* than those exhibited are rarely seen.

In *Pigeons* the prizes were offered to pens of three different varieties shown together. This arrangement proved how difficult it is for one exhibitor to show three perfect pens of *Pigeons*, a faulty pen being the order of the day in most of the trials. Single pens, on the contrary, were numerous and excellent, and consequently it may be fairly said the *Pigeons* as a whole were a good collection.

No doubt, with the care that will be taken in future years as to the time of holding the Show, the Peterborough Committee will obtain a greatly enlarged Exhibition.

DORKINGS.—First, J. Longland. Second, Mrs. H. Little. *Chickens.*—First, R. Wood. Second, T. Hardy. Highly Commended, J. Longland; R. Wood.

SINGLE DORKING COCKS.—First, J. Longland. Second, R. Wood. Commended, T. Hardy.

SINGLE GAME COCK.—First and Second, S. Deacon.

GAME (Any colour).—First and Second, S. Deacon.

COCHIN-CHINA (Any colour).—Prize, T. Hardy.

HAMBURGERS (Pencilled).—First, Withheld. Second, J. Craig.

HAMBURGERS (Spangled).—Prize, J. F. Loveridge.

BANTAMS (Any variety).—First and Second, Mrs. Edwards. Third, S. Deacon. Commended, A. Storrar.

MIXED BREED (Any colour).—First, E. Fullard (Poland cock). Second and Third, Withheld. Fourth, Mrs. Earl, Morborne.

TURKEYS.—First, Craig. Second, E. Fullard. Highly Commended, Craig.

GESE.—First, S. Deacon. Second, J. A. W. Underwood.

DUCKS (Any Breed).—First and Second, Craig (Aylesbury). Third, R. Wood (Rouen). Highly Commended, S. Deacon. Commended, S. Shaw.

PIGEONS.—First, J. Taylor (Pouters, Fantails, and Short-Faced Kitties).

Second, R. Payling (Black Carriers, Black Barbs, and Yellow Turbites).

Third, T. C. Marshall (Dun Carriers, Magpies, and Blue Antwerp).

EXTRA.—Highly Commended, Mrs. H. Little (Two Swans, Two Cygnets); Master H. B. Little (Three Rabbits).

Mr. Edward Hewitt, of Sparkbrook, Birmingham, was the Judge.

"B. & W.'s" APIARY IN 1886.

(Continued from page 156.)

REVIEWING the proceedings of the year with regard to my apiary, I find that most of my hives survived the winter in good health and with every sign of vigour. The very late spring, however, greatly tried some of them, so much so, that many of the bees hatched in March were thrown out dead before they came to maturity. Breeding, indeed, almost ceased in one or two hives. However, they gradually recovered themselves, and were pretty strong again in April.

My first swarm, a very large one, issued naturally on the 19th of May from M. I nearly lost it, as the bees took wing soon after they settled, and betook themselves to an old pollard elm, less than a quarter of a mile distant. Their excision was effected much after the manner in which I secured a stray swarm last year; but in the present case the swarm, as ultimately located in place of N in my fowl-house, became much impoverished, inasmuch as in the unavoidable delay which occurred before they could be finally settled, five-sixths of the bees returned to their old hive, or were lost in the pollard. The queen, however, a first-rate breeder, having been secured with a sufficiency of bees, this swarm gradually recovered itself, and is now a capital stock; but it yielded me no honey. A very fine second swarm issued from M on the 29th of May, which took the place of G. It yielded me about 10 lbs. of honey, and I obtained a few pounds from the parent stock. Thus, M has given me two good swarms, plus about 13 lbs. of honey, itself being now very strong in all respects.

To be brief with the others, E swarmed on the 3rd of June (swarm taking the place of defunct B), and again on the 16th. The latter swarm, however, was returned after cutting out all the royal cells and destroying the young queen found in E. The old stock subsequently yielded about 20 lbs. of honey. I, swarmed naturally on the 8th of June, and was lost in the act of hiving, to my great vexation, the queen being an Italian of my own rearing. Fortunately, before the queen rose I had hived most of the bees, which, therefore, returned to the parent hive and strengthened the second swarm, which issued on the 21st, and was subsequently given to a friend. A succession of

swarms from I after this annoyed me much, and rendered the best stock in my apiary totally unproductive this year.

Out of Q, I also lost a swarm on the 23rd. They were securely hived and remained with me a couple of days, but for some unaccountable reason they deserted their hive and escaped me.

My last swarm this year issued from O in my absence from home during the first week in July. It was put into a large straw hive, H, and stands now by the side of M. Its queen is the Italian with which Mr. Woodbury supplied me three years ago. I was wishing this queen to swarm naturally this year, in the hope that her successor in O would run less risk of being impregnated by a foreign drone. I do not perceive, however, that the bees bred by the young Italian mother are any purer than those raised by me in former years out of brood taken from this hive and the old queen.

On the whole, as to the honey harvest—about 200 lbs. weight—I have no right to complain, although, but for the tendency of my bees to swarm in spite of room given to them, I should, doubtless, have harvested more. My strongest stock, K, in the fowl-house, gave me 45 lbs. in three boxes. Six other stocks equally strong ought to have done as much—namely, C, D, E, F, M, and I.

The present arrangement of my apiary for the winter is as follows:—

BEE-HOUSE.			
A.	B.	C.	
Pure Italian queen. Born 1886. From Mr. Woodbury. Very strong.	Italian queen. Bred 1884. Very strong. Out of H (late C).	Italian queen. Born 1886. Out of H (late C). Very strong.	
D.	E.	F.	
Italian queen. Born 1886. Bred by myself out of A. Strong.	Hybrid queen. Born 1886. Out of B (late E). Very strong.	Italian queen. Bred out of H (late C) 1886. Very strong.	
UNDER COVER.			
G.			
Hybrid queen. Bred 1886, out of M. Strong.			
GARDEN.			
L.			
Hybrid Italian. Very strong. Age of queen unknown.			
H.	M.	Q.	I.
Italian queen from Mr. Wood- bury, 1882. Very strong.	Hybrid queen. Born 1886. Very strong.	Hybrid queen. Born 1886. Very strong.	Hybrid queen. Born 1886. Very strong.

FOWL-HOUSE.		O.	N.
P.	Hybrid queen, 1886. Bred out of H (late C). Very strong.	English queen. Born 1886. Strong.	
K.	Degenerate queen. Born 1886. Very strong.	Italian queen. Bred out of H (late C), 1884. Very strong.	

Thus I close the year with a stock of sixteen hives, all in excellent health and strong. I may add that the young queen of D has not only made her appearance, but proved herself an excellent breeder, and the mother of beautifully marked Italians; but as to her purity of breed I shall not be able to judge till next year.—B. & W.

THE EGYPTIAN BEE.—PART VI.

HOW I PROPAGATED IT, TESTED IT, AND FINALLY GOT RID OF IT.

(Concluded from page 252.)

WITHOUT entering into particulars, which may, however, be ascertained by referring to No. XXVI. of "Bee-keeping in Devon," which appeared in No. 241 of "our Journal," I may briefly state, that during the latter end of August and the first week of September, seven more young Egyptian queens were hatched out, whereof six were fecundated in due course, whilst one fell a victim to a regicidal attack made upon her by her worker sisters. It is a remarkable fact, that whatever might have been the case with the first queen, the whole of the last six were unquestionably fertilised by small Italian drones bred in worker cells, the last few full-sized drones that I possessed having been destroyed about the middle of September.

The remainder of the autumn was devoted to strengthening the Egyptian element in my apiary, which now consisted of the first stock, with the original queen, and seven young colonies, all the produce of the solitary queen which, having been received so late as the 30th of July, alone survived the massacre of her attendants, and was placed at the head of a small nucleus on her arrival.

The spring of 1886 was, of course, looked forward to with

great interest, and found me in the possession of eight fine Egyptian colonies, which had passed the ordeal of an English winter perfectly unscathed. In point of fact the original Egyptian queen (owing, doubtless, to the extra care and pains bestowed upon her) was at the head of by far the strongest colony in my apiary, whilst the seven others would compare advantageously with any seven of my Italian stocks that could be selected, and I looked forward with much delight to the accomplishment of the pleasing task of propagating what I at that time believed would turn out to be a race of bees superior even to the Italians in docility and beauty. But here occurred a mischance which in its results gave me the first hint as to the true character and disposition of my African protégées.

Whilst examining one of the young colonies on the 20th of April, I noticed what appeared something like a small regicidal cluster at the bottom of one of the combs. Seeing the queen, however, almost the next instant run across the same comb at perfect liberty, I deemed myself mistaken, closed the hive in all haste, and thought no more of the matter. The result proved that I had treated this occurrence too lightly, for next morning the poor deposed sovereign lay dead in front of the hive. As, however, she happened to be very fresh and retained her beauty in a remarkable degree, a clever entomological friend succeeded in stuffing and setting her up most admirably, and she now figures in the British Museum as the only specimen in that vast collection of a queen bee of *Apis fasciata*. But this by the way.

Egyptian drones having by this time made their appearance, I did not attach much importance to the loss of what was at best but a hybridised queen, and accordingly set to work to exchange brood-combs with the original stock, so that the whilom regicides might be compelled to raise a pure queen. But this was no easy task; the little rascals showed fight with all the fiery impetuosity of a body of Prince Rupert's cavaliers, combined with a stern determination and indomitable resolution which would have done credit to a corps of Cromwell's redoubted Ironsides. Quickly was I compelled to put on Indian-rubber bee-gloves (a piece of armour which I had long disused), and soon afterwards discovered, that whilst wearing slippers I laboured under the same disadvantage as Achilles, in being vulnerable at the heel. Nor was this all. When the exchange had been effected, the hive restored to its normal state, and, as I thought, a truce proclaimed, these indomitable little Amazons would have none of it, but attacked and stung all and sundry that ventured into the garden, until I became convinced that it was in vain to indulge further a hope for peace, and was ultimately compelled to banish them to a secluded position a mile and a half distant, where they remained until the evening of the 7th of May. On examining them the next morning I found that two royal cells had arrived at perfection, whilst all the rest were destroyed; and a stricter scrutiny revealing the fact that the two recent denizens of the naturally-opened queen cells had not yet met in mortal combat, but were still surviving within the hive, its inhabitants were forthwith divided into two colonies, with a young queen at the head of each. The remarkable display of spirit on the part of my recent acquisition caused me to pause in the attempt to propagate *Apis fasciata*, but it required much more than this to force me to the course which I was afterwards compelled to adopt.

Any one who turns back to No. 241 of "our Journal," to which I have before referred, will see that the fifth Egyptian queen developed some extraordinary phenomena, which I there described as follows:—"When she was about ten days old I noticed a single egg in a worker cell, which appeared to be the signal for the destruction of a few full-sized drones which existed in the hive at the time. More eggs were gradually deposited in the adjoining cells, and all receiving the raised convex coverings appropriate to drones, whilst the abdomen of the queen (a very small one) remained undistended, I doubted not that she would turn out a confirmed drone-breeder. When rather over twenty days old, I noticed, much to my astonishment, a remarkable change in her appearance, which suddenly assumed the graceful degree of *embonpoint* proper to an impregnated queen. This was accompanied by an equally notable change in the manner of her oviposition, which from being sparse and unequal became copious and regular. Soon afterwards it also became evident that her progeny would not be entirely of the male sex, a few cells of worker brood appearing here and there amidst the protruding cradles of the drones; and this proportion has gradually and steadily increased until I have every reason to believe she has assumed the status of a fully-developed queen, breeding workers

only as is proper at this season." It is not a little singular that after breeding workers only, as is usual during the early spring, she as summer approached reverted to the condition of a drone-breeder, depositing male eggs only in the worker cells, until I ultimately decided on removing her, and sent her to my friend, Mr. F. Smith, of the British Museum, to be by him killed and set up as an entomological specimen.

In the mean time, as I had ceased the propagation of the Egyptian variety, that element in my apiary became somewhat diminished. One stock, transferred to the Acclimatisation Society, took its departure for the gardens of the Royal Horticultural Society at South Kensington, where it has done well, and has partially filled a super with the first honey taken in England from Egyptian bees. The queen and bees of another stock went to Leeds, there, I hope, in some measure, to compensate Mr. F. H. West for a stock of Italians, which became very much weakened during its transit from my apiary to the north. What it has done, and how it has succeeded, we may probably learn from him in due course. The original stock was sent to Mr. Lowe, of Edinburgh, who will, I hope, relate the result himself.

Having, therefore, materially reduced my stock, the unwelcome conviction slowly but surely forced itself upon me, that Egyptian bees were wholly unsuited for experimental purposes when kept in a garden adjoining a public and well-frequented thoroughfare. So long as they were not meddled with they were peaceable enough, but let but a crown-board be removed, and every bee that could fly was instantly on the wing to resent the invasion, leaving the hive and combs in the occupation only of the queen and such juveniles as had never taken wing. How they searched out and penetrated every weak point in the bee armour—how they crept up under the eaves and crawled up the trousers it boots not here to relate: suffice it to say that if they had confined their attentions to the actual aggressor all might have been forgiven, but such unfortunately was not the case. The slightest operation upon an Egyptian stock became the signal for a most appalling outpouring of doors. Helpless infants in perambulators were stung nearly into fits; lagging errand boys were startled from their usual loitering gait, and sent blubbering to their destination at a pace which must have highly gratified their employers; wretched little lap-dogs with whizzing yellowish-white pellets viciously embedded in their well-washed coats ran yelping piteously for protection underneath the petticoats of their horrified and distracted mistresses; most potent, grave, and reverend seignors sprang headlong into the arms of affrighted serving-maidens, each rushing in opposite directions to escape the unforeseen attack; whilst to crown the whole a large school of young ladies was not only frightened from its propriety, but put to the most utter and ignominious rout. It says much for the forbearance of the Exonians that no formal complaint was made either to or of me; but I could not but be aware of what was going on, and came to the conclusion that the remaining Egyptians must be got rid of. After transforming some by an exchange of queens, I had yet five remaining, which I disposed of in the following manner: three were exchanged for common stocks with my friend Mr. S. Bevan Fox; one I presented to Mr. George Fox, of Kingsbridge; and the last, which was a nucleus without a queen, I fairly stifled and buried, thanking Heaven as I trod in the earth over their grave, that I was at length happily quit of The Egyptian Bee.—A DEVONSHIRE BEE-KEEPER.

OUR LETTER BOX.

DOUBLE-BODIED CHICKEN.—We have a letter for "B. B.," which shall be forwarded to him if he will send his address.

DUCKS' GULLETS HANGING DOWN (Omnium).—Ducks have no crops; that which appeared to be a mark or division across the gullet was caused by its being over-loaded, and hanging below its natural position. As soon as a bird shows any similar symptoms, put it in confinement, give it a little water only three times per day, and feed lightly on meal. If the gullet hangs down, raise it with the hand, and empty it into the stomach. If this is found difficult, hold the patient by the hind legs till it is empty. If this cure the disorder there is some mistake in your feeding.

DORKING WITH WHITE DEAF EARS (A. K. C.).—White deaf ears are not an imperfection in a Dorking hen, but they are not desirable. The deaf ear is not a Dorking point.

SHOOTERS IN POULTRY (D. H.).—This is a vulgar name for a variety of the roup. Bread steeped in strong ale, and camphorated water as strong as chickens will drink it, are both good remedies. The former acts the more rapidly, the latter is the more certain cure.

CLARIFYING AND KEEPING HONEY (Busy Bee).—Honey is best clarified by means of a hot-water bath, which may be readily improved by putting the jar containing it in a saucepan or boiler of water, which should be placed on the fire and boiled until the honey becomes perfectly clear, all impurities being removed by skimming as they arise. Store it in air-tight jars, and keep in a cool place.

WEEKLY CALENDAR.

Day of Month	Day of Week	OCTOBER 28—29, 1888.	Average Temperature near London.			Rain in last 39 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.								
28	Tu	<i>Erica aurea.</i>	58.2	59.8	49.0	30	59 41	50 44	51 41	54 45	15	15 35	296
29	W	<i>Erica exurgens carnea.</i>	56.2	59.2	47.7	17	41 6	48 4	27 5	56 8	0	15 43	297
30	Th	<i>Erica exurgens grandiflora.</i>	58.3	58.7	48.5	18	43 6	46 4	7 5	14 8	17	15 50	298
31	F	<i>Erica vestita coccinea.</i>	55.5	58.8	48.2	16	45 6	44 4	56 6	39 9	18	15 56	299
1	S	<i>Erica sulphurea.</i> [St. Jude.	55.0	59.8	47.2	24	47 6	42 4	43 7	38 10	19	16 5	300
2	Su	23 SUN. AFTER TRIN. St. Sim. AND	54.6	56.7	45.7	23	49 6	40 4	54 8	after.	20	16 6	301
3	M	<i>Ageratum mexicanum.</i>	53.7	55.2	44.4	18	50 6	38 4	1 10	27 0	21	16 11	302

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 55.9°; and its night temperature 57.9°. The greatest heat was 67°, on the 28th, 1830; and 29th 1839; and the lowest cold 17°, on the 28th, 1859. The greatest fall of rain was 1.06 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

WINTERING BEDDING PLANTS.

(Continued from page 272.)



GERANIUMS.—From the damp generated in pits sunk in the ground Geraniums are subject to decay in such structures, a moist atmosphere in winter being almost as injurious to them as frost.

Damp is the great evil of our pits in winter, although during the hot summer months a moist atmosphere is very beneficial. I have little faith in the wintering of Geraniums in pits as at present constructed, for such are merely holes dug in the ground, with brick sides to prevent the earth falling in, soil placed in contact with the brickwork, and nothing at the bottom to prevent damp rising. Why should we not have pits sunk in the ground to winter plants safely, without the waste of fuel and labour now entailed by keeping plants only needing protection from frost in heated structures? I believe that there are few plants requiring the protection of a greenhouse which cannot be preserved in better health during the winter in dry sunk pits than in artificially heated structures. Most persons know that in this country frost never penetrates a foot deep into the ground, and the roots of plants covered with this depth of earth are quite safe from frost. Soils absorb heat in proportion to their retention of moisture, and radiate it in the same ratio, and plants in dry soils are not so liable to injury from frost as the same kinds of plants on heavy ground; and a dry pit, besides rendering its inmates less liable to injury from frost, also prevents their foliage damping.

Pits for the protection of plants in winter, and for their growth in summer, need not be more than 3 feet deep. A dry and sheltered situation should be chosen, and the site being dug out to the depth mentioned, and the bottom covered with 3 inches of coarse gravel, ram it firm, and then place on it 1½ inch of Portland cement one part by measure, mixed with water to a thin guage with two parts of coarse sand or gravel. Now, as we have to guard against or get rid of water from within, which will occur in wintering the plants however carefully performed, the concrete must be laid on thicker at the sides, and the bottom should incline from the sides to the centre, where there should be a gutter with a fall to one end, there passing through the brickwork, and communicating with a drain. Before the concrete has become thoroughly set, spread over it an inch-thick layer of equal parts of Portland cement and fine sand made to the consistency of thin mortar, and this will do for the bottom, for water will not pass through it either upwards or downwards. Build the walls upon the concrete, and they need not be carried higher than sufficient to allow of the lights being moved up and down; and in build-

ing, at every 4 feet, and 6 inches from the bottom, insert an elbow four-inch glazed earthenware pipe along the back and front walls, allowing the pipe to go close to the wall outside. Let the brickwork remain until thoroughly dry, and then coat it outside only with equal parts of mineral pitch and resin, and a quantity of coal tar equal to both, boiled over a fire for a short time, and applied boiling. Repeat the application, and no water will pass through. The inside may be coated with boiling gas tar. This should not be done until the brickwork is thoroughly dry, and some time previous to putting in the plants. It is to be regretted that no cheap and effectual process has been adopted for glazing bricks, for it seems as if we endeavour to obtain a material having few equals as an absorbent of moisture, to build with, and then give ourselves much trouble to render our dwellings dry. If glazed bricks can be obtained, by all means use them, employing cement instead of mortar. The walls need not be more than half a brick (4½ inches) thick, and instead of making an area all round on the outside, fill in to the wall with brick and mortar rubbish or stones; also, if the bottom around the walls on the outside be made firm and incline to a drain, all the better. The drain-pipes, which have one end in the pit, are to have an additional length added outside to bring that end above the ground, but not more than 1 foot. The joints may be cemented. Now the surface for a yard all round the pit should be raised to within 3 inches of the wall plates, back, front, and ends alike, and all sloping outwards, using for this purpose coarse gravel, and the remaining 3 inches, or up to the wall plates, may be of asphalt. This being done, all water will run from the walls. The drain-pipes will appear 3 inches above the surface, and each end should be closed with a wooden plug. In bringing the surrounding ground up to a level with the under side of the wall plates, due allowance must be made for sliding down the lights.

The furnishing of the inside of the pit is the next consideration. My plan is to have in the interior bricks projecting 1½ inch from the walls back and front at 3 feet distance, and 18 inches from the glass, or rather the under side of the rafters; the walls being 4½ inches thick, a whole brick endwise just does it. On these bricks place spars, 4 inches by 3 inches, crosswise of the pit, their ends resting on the projecting bricks, and, as they slope with the lights, commencing at back I nail on each a strip of wood wedge-like, so that the shelf placed on it may be level. Nine-inch deals (red deal for endurance), are then placed lengthwise, and so on to the front.

A pit may be constructed in the above manner at a cost but little exceeding that of one hurriedly run up on no principle whatever. The only drawback is the coating the inside with gas tar, which for a time gives off exhalations injurious to the plants, and on this account I have had the inside coated with cement; but this does not answer nearly so well as painting the bricks with anti-corrosion paint. The pipes which communicate with the external air are for the purpose of supplying air, or drawing off that which is damp and vitiated. On fine days the plugs can be taken out, and the least raising or tilting of the lights at back

will set the atmosphere of the pit in motion, especially when the external air is cold.

Apart from pit-building I promised a few hints on the wintering of Geraniums without the aid of artificial heat, by which I wish it to be understood that no fire heat is meant, and equally so that no damp cold pit is to be used for such a purpose. The pit must be dry, and then the Geraniums may be placed in it any time before severe weather sets in, not with a view of keeping them close, but to preserve them from wet and to mature the growth made. No more water is to be given than sufficient to keep the leaves on, and the soil by the middle of November should feel quite dry, or exhibit every appearance of requiring water. The pots or boxes of cuttings should be placed on boards, and not on the bottom of the pit, as that may communicate moisture to the pot and soil. From November to March the plants will not require a drop of water in an ordinary winter, but should they grow, from the mildness of the weather, give a little to prevent their drying up; yet be cautious, for once you make the soil wet it is next to impossible to get it dry again, and should severe weather ensue the safety of the plant is by no means secure. Very rarely indeed will it be necessary to furnish the plants with water during winter, and if the soil can be kept dry the danger of injury from frost is extremely small, for a covering of mats, double, will protect from 10° of frost, and 9 inches of dry litter or straw upon this will exclude any frost we have in our climate, if I may take the frost of December 25th, 1860, as a criterion, when the thermometer fell to 3° below zero with me, and then I had old plants of Geraniums in dry sand in brick pits side by side with Endive, and the former were uninjured, whilst the latter was destroyed. In very severe weather the lights must not be opened nor the covering removed; Geraniums will endure as much darkness as Calceolarias, and so will any plant if the atmosphere be so cold as to prevent growth. Air, and plenty of it whenever the weather is mild, is essential, for no attempt to encourage growth must be made before March; but, on the contrary, every means should be taken to prevent it, and that object is effected by keeping the soil and atmosphere dry and cold. The plants will not grow much, if at all, before March, and then water must be sparingly given. Early in April they may be potted off, advantage being taken of the moveable shelves to remove them from the pit; and form a hotbed of leaves, which, covered with a few inches of sawdust or spent tan, will be an excellent medium to plunge the pots in, the bed being made so as to bring the plants almost within touching distance of the glass. They will now grow rapidly, and must be protected from frost by mats thrown over the lights at night, and be watered when necessary. The points of the shoots may be taken out, and that will induce them to branch. In this way by the middle of May a stock of fine plants will be secured, and if hardened off they will be fit for planting out at the end of the month.

Damp being the great evil to be guarded against, air is the chief requisite. This and protection from frost being secured, and damp avoided, there is no greater difficulty in wintering Geraniums than Calceolarias.

Old plants may be taken up before they are frozen, and after picking off all the leaves, closely packed in dry sand in boxes, the root portion only being covered. Any dry place, no matter how dark, will do, so long as it is not warm. If it were possible to keep them at 33° that would be well; but as cellars and pits are generally much warmer, keep the plants as cool and dry as you can without subjecting them to a temperature lower than 33°. They will just do as well in sand in a cellar as in a house affording much light, and keep as safely as Dahlia roots. They will require occasional looking over, any mouldy shoots being cut clean off. Here they may remain until the beginning of April, when they may have a hotbed made up so as to produce a gentle heat, and be potted after having the roots trimmed. The shoots may also be cut back, and if placed in a frame over the hotbed the plants will soon push new shoots, and with proper care in watering, air during the day, and protection at night, will make fine plants by bedding-out time, for they seem to grow more rapidly after a long rest. It will answer almost as well if the plants are placed in a greenhouse on being removed from the cellar, pit, or other place where they may have been wintered. Sometimes, when taking up the plants, if I find the shoots very sappy, in addition to removing the leaves, the points are cut off also. It is only the common kinds that are treated in this manner.

Besides Geraniums, the pit will be available for wintering *Orpheus platycentra* and *strigillosa*, *Ageratums*, *Salvias*, *Lo-*

belias, *Alyssums*, and other plants which, like Geraniums, need protection from frost as well as dryness. A few plants of the kinds named, for the purpose of affording cuttings in spring, will be found useful; and of such, and the raising of annuals for bedding-purposes in heat or in a frame, I hope to treat in due season.—G. ABBEY.

CONIFERÆ AT LINTON PARK.

(Continued from page 292.)

CRYPTOMERIA JAPONICA, 89 feet high, and 15 feet in diameter, having grown 10½ feet in the last five years. This tree is beautifully straight, and tapering from the bottom to the top. In some seasons it has scarcely shown any symptoms of turning brown in autumn, while in others it has done so; it certainly is not the cold that causes this, as in the seasons in which it does so the change takes place before cold weather sets in. The tree is, nevertheless, a useful addition to the pinetum; its fine, straight, pyramidal form, and the graceful curve of its branches, give it a handsome appearance. Cones of a globular form have been produced upon it for many years. The situation which it occupies is sheltered and tolerably dry. There is a variety called *viridis*, said to be less liable to turn brown, though its properties in this respect appear to be doubtful. There is also one showing a more robust character, called *C. Lowii*; but, having only young plants of it, I cannot give an opinion of its distinctive features. It seems to grow freely, and I should think will become more thickly furnished at bottom; but it has not with us arrived at an age sufficient to determine this.

CRYPTOMERIA ELEGANS.—Only young specimens of this are planted out, but it promises to be a fast grower. I fear by its appearance that it may not be quite hardy; but it would be premature to give an opinion as to this. Last winter, though unprotected, the plant did not appear to sustain the least injury; but it was a mild season. If it prosper, as it promises to do, it will be an important addition to the pinetum; the peculiar tint of reddish brown or purple which it acquires in winter differs widely from the yellow tinge of *C. japonica*, more resembling the peculiarly rich hue of *Retinospora ericoides*. It does not appear to be very much planted yet, and, no doubt, its success will depend on its hardiness.

CUPRESSUS MACROCARPA or *LAMBERTIANA*, 34½ feet high, and 19 feet in diameter, having grown 18½ feet during the last five years. This fine tree was planted in the spring of 1854, being then not more than a foot high, so that its average growth for twelve consecutive years has been a little more than 2 feet 9 inches, and it has become densely bushy in proportion. In outline it forms a cone, of which the greatest diameter is about 4 or 5 feet up. I can endorse all that my friend, Mr. McDonald, of Woodstock, Ireland, has said in its favour at page 166, excepting in one respect—I am at a loss to understand his success with it, as he mentions having transplanted it five years ago. In my own practice I have always considered it most difficult to remove, small plants only 1½ foot high often going off entirely, or dying so much back as to be disfigured for some time, and I should much like to hear how Mr. McDonald succeeded so well. I expect the moist climate of Ireland favoured him much, and, no doubt, the proper season was chosen for the work of removal. Still, one-half of the plants will generally die if they have been more than one year planted before removal; but when once established their progress is so rapid that they quickly make up for lost time.

The rich green colour of the foliage, and the compact habit of *Cupressus macrocarpa*, render its appearance conspicuous even amongst trees of a like character, at the same time I fear that it will not attain the importance of the Cedars as detached or isolated specimen trees. A tree so fast-growing and so densely clothed with foliage, must necessarily suffer much from high winds, though I have never known a branch broken in this way, nor yet by heavy falls of snow. The tree is now and then uprooted by high winds, more especially if its roots have remained undisturbed in a pot. As regards the specimen described above, especial care was taken when it was planted to stretch out all its roots to their utmost length, and fortunately they were so small as to allow of the sudden turns and bends being laid straight without much injury, though not without some. I would always advise this to be done rather than leave the plant to the uncertainty or almost certainty of after-strangulation, as the following case will exemplify. Some years ago a fine specimen of *Pinus Sabiniana*

or a kindred species was blown down in a gale of no extraordinary violence, and on examining its roots I found it had been turned out of a pot in the same way as a Geranium or other summer-flowering plant. One prominent root coiled itself once or twice round the pot, and above the collar, and on the tree being planted the collar swelled until it met this circular band, which, of course, strengthened also. The collar also, however, swelled over it, surrounded it, and in some degree made an attempt to unite itself again on the other side of the band, but the advancing growth of the latter prevented this, so that the tree had to balance itself on that portion of its trunk which was inside the circular coil of roots, and which was about 4 inches in diameter. For a time this was sufficient, but not so when the top became enlarged and heavy, and the result was the destruction of the tree. Now, this state of things is by no means uncommon, not only with the Cypress, but also with the Pinus tribe, and I would, therefore, warn all planters against running the risk of after-accidents from the tree standing on "corkscrew" roots. Uncoiling the roots after being in a pot may cause the plant to suffer for a short time, but it is better that it should thus sustain a temporary check, than be blown down ten years afterwards, or, which is almost as bad, have to be propped up.

I may add, that our large specimen of *Cupressus macrocarpa* never had any support after the first month or so that it was planted, but the situation is sheltered, several other bushy Pinuses surrounding it and breaking the force of the wind, otherwise I hardly think it would have been so erect at the present time, as we have lost other and smaller plants standing more exposed. I can also vouch for all Mr. McDonald says of the hardiness of *Cupressus macrocarpa*, as the severe winter of 1860-61, which gave a very slight tinge of brown to one side of a Wellingtonia, did not seem to do it the least injury. It has for some years borne cones, which are globular and larger than those of the *Arbor Vitæ*; it also strikes freely from cuttings. Those who want a quick-growing plant for symmetrical training, will, I believe, find that it bears cutting-in well; but I only speak from opinion on this point, having confined my operations with the knife to removing a rival leader now and then, and this not on the specimen above referred to, which, though densely clothed all the way up, has always maintained a proper leader, to which all the others are subordinate.

CUPRESSUS LAWSONIANA.—The plants of this beautiful species which we have here are small, not having been planted so long as some others; but it promises to speedily claim its position as a fine graceful tree of rapid growth. It is quite hardy, and has also the good property of not suffering much by transplanting, for last winter we removed upwards of two hundred plants, averaging 4 feet in height, and I believe not one of them has suffered in the least, whilst with a like number of the Wellingtonia the loss has been severe. I may, however, warn those who may wish to plant this tree where game abounds, that rabbits are very fond of it, and they quickly destroy it. The tree promises to thrive well on moist soils, and with us grows rapidly on a rather dry, stony one, where, however, its roots can descend as low as they like. I have seen a variegated form of this plant, which, however, is more a novelty than a desirable acquisition.

CUPRESSUS TORULOSA, KNIGHTIANA, and GOVENIANA are all useful. *C. Knightiana* is a very strong grower. All are deserving attention.

CUPRESSUS UDRANA.—Our specimen is 17 feet high and 8 feet in diameter. This is a fast-growing tree of a rich silvery grey colour, making a marked contrast with the dark emerald green of *C. macrocarpa*. Much larger specimens, I believe, exist in other places, but I have not seen any that exhibit a more silvery hue. It is perfectly distinct from the other members of this numerous family, and on that account deserves a place in every collection. It also promises to become a tree, which all the Cupresses certainly will not.

CUPRESSUS RUMBRIS.—The specimen is 12 feet high and 6½ feet in diameter, having grown 3½ feet in the last five years. I cannot say much in favour of this species, for it has failed to become so popular as it promised to be, being a shrub rather than a tree, and the severe winter of 1860-61, though it did not injure the specimen in question, killed several in other parts of England. Like the Virginian Cedar (*Juniperus virginiana*), and some other Junipers, it has two distinct sets of foliage, giving one part of the plant a different character from the other. From what I have seen of it I should say that plants about 6 feet high look as well as any. The outline of

the tree is more elliptical than conical, or, I may say, egg-shaped, with the broadest end upwards.

CUPRESSUS SEMPERVIRENS is here 33 feet high and 5 feet in diameter. This fine old Italian Cypress is still deserving of a place everywhere, and grows more freely than the Swedish Juniper, Irish Yew, and other upright plants which are sometimes wanted to give a feature to dressed grounds. It seems to succeed best in a deep rich soil, but it also thrives on a dry stony one, as several plants which we have here are on a site of the latter kind. For depth of colour it is only second to *C. macrocarpa*.

The species of *Cupressus* which I have mentioned constitute, I think, the cream of the genus; but there are many others, of which I must leave the merits to be described by those possessing better specimens. I may also remark that many of the names by which the species are known are merely synonyms.

DECIDUOUS CYPRESS (*Taxodium distichum*), 25½ feet high and 14 feet in diameter, having grown 6½ feet during the last five years. This is a small tree as compared with many in the country, and is only mentioned in order to recommend its cultivation. Its neat Fern-like foliage renders it a general favourite at all seasons, more especially in the autumn when its foliage dies off to a fine rich apricot colour. As a tree I should expect its timber to be good, but its growth is not quick enough for the English planter to enter extensively into its cultivation for profit. I should think a soil not too dry will best suit it.

IRISH YEW.—Several fine specimens, the tallest being 18½ feet high and 4 feet in diameter; this, however, has only grown 2 feet in the five years. Other plants, 15 or 16 feet high, also looked well.

LIBOCEDRUS CHILENSIS is 11½ feet high by 7 feet in diameter, having grown about 1 foot a-year since it was planted. The winter of 1860-61, which destroyed so many specimens in various parts of England, only slightly injured this. It would, however, be too much to assert that it will become a large and ornamental tree, but it may attain the dimensions of the *Arbor Vitæ*, to which it is a fitting companion, although differing widely from it in the colour as well as formation of the foliage.

PINUS EXCELSA.—A specimen 35 feet high and nearly the same in diameter, and several others are nearly as large, the growth of the tallest being 8 feet in five years. There is considerable difference in the appearance of these trees, some having the foliage more drooping than others, and some have the scales enclosing the young buds in spring green, while in others they are of a beautiful rosy pink hue. The habit also differs, some plants being more upright than others. Several of them have borne cones, which are sometimes upwards of a foot long, and of a purple colour, not so dark as those of *Picea Webbiana*; they are often slightly curved, and being pendulous have a graceful appearance. The beautiful silvery grey hue of this species will always entitle it to a first place in a collection. In its bushy character the tree differs widely from *Pinus cembra* and the Weymouth Pine (*P. strobus*), both of which resemble it in colour. Our specimen did not suffer in the least from the winter of 1860-61. *P. excelsa* may be regarded as one of the hardiest of the genus, and promises as a tree to arrive at the largest size. Unfortunately we were obliged to sacrifice our largest trees some years ago, otherwise we should most likely have had specimens 6 feet higher than any we now possess.

PINUS INSIGNIS, 51 feet high, and 41 feet in diameter, having grown 11 feet during the last five years. A very handsome tree, densely clothed to the ground, on which its lower branches, or rather limbs, rest. It has borne cones for many years, and I have never noticed it in the least injured by frost; indeed, it seems as hardy here as a Scotch Fir, and grows more rapidly. The above specimen would have been, perhaps, 12 or 15 feet higher, had it not lost its leader about fifteen years ago, and remained some years before forming another, which it did without exhibiting any crook or other indication of the original leader having been lost. The tree would probably not have been so well clothed at bottom if it had not met with this accident, but as it is, it would be impossible to look on anything more healthy, and the dense green foliage gives it a remarkable appearance at all times, more especially in winter. Some young trees that were planted about a dozen years ago have grown remarkably fast, one of them having gained 14½ feet in five years, and others nearly as much. Even in the young state the tree looks well, and I think it stands the wind well. Certainly the largest specimen here is in a sheltered position;

but others in the most exposed situations do not appear to sustain any injury. This species deserves a place everywhere.

PINUS CEMBRA differs widely from the preceding alike in hue and outline. Our best specimen, growing in rather a confined place, is 39 feet high, and 8 feet in diameter. The outline of the tree is somewhat cylindrical rather than conical; the stem is straight, and thickly set with branches, and the foliage of a sort of ashy grey, and more stiff than that of *P. excelsa*, from which this species differs widely in every respect. It appears to be quite hardy, but is little planted, although in a collection its upright character gives it a claim to more general cultivation. I believe that in some collections there are much finer specimens than the above, which is only mentioned in order to call attention to the species.

PINUS BENTHAMIANA 10 feet high and 6 feet in diameter. This is a handsome, long-leaved species, having a greater abundance of foliage than *P. ponderosa*, which it somewhat resembles. Our tree is in a rather exposed place, and consequently its growth is less rapid than that of some others, being in this instance only 7½ feet in the last five years. There seem to be several kindred species to this, which renders it difficult in some cases to say with a certainty which is the true one. The plant, however, promises well.

PINUS PONDEROSA, 41 feet high and 26 feet in diameter, having grown 8 feet in the last five years. This is really a handsome tree. The leaves are long, of a fine, healthy green, very robust, and thickly set in tufts at the extremities of the branches, which, instead of being drooping, stand out stiffly from the stem, in whorl fashion, in all directions. The stem like the leaves is robust and strong, and the bark presents a beautiful kind of fretwork when the foliage is shed, so that the naked limbs are on the whole ornamental rather than unsightly. In a young state the tree is not ornamental, but the specimen above referred to is much admired. The timber is said to be excellent, and the branches, though stiff, seem to bend without breaking. Like a Hazel. I have not noticed any appearance of cones, but having only one large tree, it may, perhaps, not be a cone-bearing one.

PINUS AUSTRIACA, 42 feet high and 24 feet in diameter, having grown 8½ feet in the last five years. This is a free-growing species, of sturdy habit, and capable of withstanding high winds; it is also of quick growth, though not so much so as *P. insignis*. It is, however, a fine-growing tree, and seems adapted for elevated situations, as some trees here in a much more exposed place than that of which the dimensions are stated surpass it in general appearance, and promise ere long to outstrip it in height.

PINUS PYRENAICA, a symmetrical-growing tree of the most lovely green. The shoots, which are very thickly set on the stem, after drooping a little turn up again, and their tips all point upwards, but so numerous and dense are they that it is difficult to see the bole without holding the branches aside. This, however, is a slow-growing tree as compared with *P. insignis* and *ponderosa*; for a specimen planted at the same time as these kinds is not more than half the height, being only 23 feet high, and about the same in diameter. It forms a compact cone, or rather a sort of bulbous cone in outline; foliage stiff, and pointing upwards.

PINUS LARICIO, *JEFFREYANA*, *RADIATA*, and some others have representatives here, but not so remarkable as to call for special notice. The first-named hardly thrives so well here as to merit the high name it has received elsewhere.

PINUS STROBUS (The Weymouth Pine).—Some young trees of this well-known species certainly do not grow so fast as *P. excelsa*; it may, however, be hardier than the latter, but as this has not shown any indication of being injured in our hardest winters, its pre-eminence over the Weymouth may be said to be established. —J. ROBSON.

(To be continued.)

We have received some very well painted drawings from Messrs. E. G. Henderson & Son of double Violets—King, purple, and Queen, white; also of three new Camellias, *Elvira Bianchini*, white with pale rosy tint; *General Cialdini*, rosy with dark stripes; and *Zoraide Vanzi*, pale rose, with dark blotches and stripes. Also of seven tricolored-leaved Geraniums, all very striking. We must warn our readers against expecting that coloured-foliaged Geranium will retain the colours in the leaves if grown in common garden soil. We wish some of our readers would state the soil, or compost, which enables the plants to retain their brilliant attire.

CYMBIDIUM SINENSE.

LOOKING over some back volumes of THE JOURNAL OF HORTICULTURE one day I accidentally saw the following at page 30, vol. viii. :—"The *Cymbidium sinense* is a most useful plant for the drawing-room, the scent is most delicious." I went forthwith to look for this *Cymbidium* in all the catalogues of stove plants and Orchids which I possess—those of Messrs. Williams, E. G. Henderson, Backhouse, &c.—but I could not find it in any of them. It is not a new plant, as the "Cottage Gardener's Dictionary" states that it was introduced in 1793. Can any one tell me where it is to be had? What is the reason for its being neglected, or at least disappearing from the catalogues?—CLERICUS.

[There is no doubt about the correctness of the statement made in our pages. The *C. sinense* is figured and described in the tenth volume of the "Botanical Magazine," published in 1805. There it is stated to be "a native of China, from whence it was introduced by the late Mr. Slater. It thrives luxuriantly in the conservatory." It has been supplanted among Orchid-growers by *C. eburneum*, which is portrayed and thus noticed in the "Botanical Register."—"The flowers of this charming plant are not only among the largest of the genus, but among the sweetest. They resemble, in fragrance, those of the Chinese Cymbid, than which nothing is more delicious."

C. eburneum is a native of the East Indies, and could not take the place of *C. sinense* in the drawing-room. Why is not this more available species retained in their catalogues by nurserymen? Where can it be obtained?—EDS.]

ROSES.

I THANK "D." for his Rose information. Madame Canrobert, Souvenir d'Elise, and a globular specimen of Gloire de Dijon, were the three best-shaped Roses at the National Rose Show.

I ordered twelve plants of Madame Canrobert, but was told it was a bad grower, and so I issued a counter-order. I will not keep a Rose that is not "vigorous." A Rose may be vigorous and yet not hardy.

The two best pot Roses at the National were each Rushton Radclyffe. I cannot perceive it to be tender. Since Jules Margottin and Charles Lefebvre came out, I have not had a Rose with so many good attributes. I have ordered twelve more. The original six came from M. Verdier. They have done well. This Rose throws up from the base of the plant shoots 24 inches long. It is a continual bloomer, full-sized, and full to the centre, of circular outline, has deep smooth petals, is a free bloomer in all weathers, and never has a blind end. I gave "S. R. H." off one plant enough to bud nine Roses. Since that was cut off it has grown well and bloomed well. I am satisfied with it; but if "D." will have another, let it be a maroon, or blue violet purple. Shorten the name to "Radclyffe." Long names are a nuisance.

There are sixty-four novelties about to make their appearance. I like the reading of the two Tea Roses, Madame Brémond, and Madame Margottin; of Mr. W. Paul's Black Prince and Dr. Lindley; and of Mr. Eugène Verdier's Napoleon III.

At a venture I will back Dr. Lindley against the other sixty-three novelties. I saw it in London twice in one year, expanded and globular, and thought it the finest and best English seedling that I ever saw.

If Lord Clyde and Lord Macaulay are English seedlings, they are very fine, and in quality of petal the nearest to Charles Lefebvre, which is the best of all Roses.

John Hopper and Devonensis are worthy of all praise.—W. F. RADCLYFFE, Okeford Fitzpaine.

STRAWBERRIES IN GROUND VINERIES.

ALLOW me to suggest that these structures might be used to bring forward a crop of Strawberries, and, after the Strawberries were gathered, to ripen a crop of Melons.

Let the Strawberries be planted in beds of two rows, the rows 1 foot apart, and the plants 2 feet apart in each row. A three-foot vinery would be more than ample to cover two such rows.

The time of the Strawberries' ripening will depend on the sort, and on the amount of ventilation given; but the crop will be off by the middle of June, and you will have well-advanced, if not rooted, runners ready for new beds.

Now move your vinery to the spot destined for your Melons.

When the ground has been warmed by being under glass for a few days, and the spot which is to receive the Melon plants turned over every evening so as to bury the heat, the plants, which have been raised elsewhere, and which have been trained to a single stem, may be put in. A three-feet vinery might possibly hold two plants abreast. If only one, the laterals would have more room to ramble. The heat being economised by early shutting-up and by nightly coverings, I think that in ordinary seasons first-rate Melons might be obtained.—G. S.

AMONG THE SCOTTISH BRAES, LOCHS, AND MOUNTAINS.—No. 5.

"It's the rheumatiz—gardeners always has it." So replied a sinewy man, over whom full seventy winters had passed, and of whom I inquired what compelled him to walk down Melrose high street leaning on two sticks. Now, it is true that gardeners are very commonly afflicted with rheumatism—sudden transitions from the steamy air of hothouses to cold winds in the open garden, are apt to induce the disease; but the more avoidable acts of training wall trees during inclement weather, and putting on, whilst hot from labour, coats and vests which have been thrown carelessly on to wet ground, are far more inductive of the disabling disease—a fine should be imposed upon such thoughtless doings.

Liable as gardeners are to rheumatism, they are long-lived professionals. No other evidence need be adduced than the lists of applicants for the pensions of the Gardeners' Benevolent Institution. Each applicant's age is stated, and rarely is there one who has not seen seventy years or more. But we have other evidence of their longevity. Switzer, Philip Miller, James Lee, and John Abercrombie each lived eighty years; William Speechley, eighty-six; and a long list indeed would be that which included the garden celebrities who lived to be seventy.

The four-scorers are indeed very many, and among them were the parents of Robert Burns. Side by side lie they in Alloway kirkyard; and it would have been more fitting if he had rested also in that "God's acre" immortalised by his verse rather than where he does rest—at Dumfries. And so thought the old Ayrshire man who pointed out the very window in the kirk's wall through which Tam o' Shanter spied at Maggie with the shorten sark! "He'd a lived langer had he ne'er been a gauger," said my guide; and may be he would, and had followed his father's calling, for, as my old "rheumatiz" acquaintance at Melrose concluded, "it's healthfu' ne'ertheless." Perhaps Michael Scott the wizard thought so too, and, to keep his familiar in health as well as occupation, handed him the spade to divide Eildon Hill into three *equal* sections. The familiar was no geometrician, and had not succeeded even as late as August of the present year.

The said Michael Scott is said to have written as follows:—"To choose out a place fitting for the erection of a convenient habitation, first single out a convenient place or soil where you mean to erect your edifice, not far distant from some running river, fountain, or other water, and bordering near some thicket, or shadowed with Elms or other trees, for they are a very delectable object to the eye; for they many times besides break the heat of the sun and the rage of the winds, and are convenient both for shelter and sight. So you must be regardful that the air be not corrupt and damp by the exhalations of fogs, sucked up by the sun from fens and other low and rotten ground. For the air is a great preserver or drawer-on of health or sickness, and hath a powerful hand in the state of every man's body, and is the cause of many dangerous diseases and much continued health."

If Michael Scott wrote that he was four centuries in advance of his age, and no wonder he was suspected of wizardry. But he was a man of taste also, for he adds, "Let the foundation be upon dry and sandy ground of some fit elevation, with the windows towards the sun's rising, except the prospect otherwise persuade you."

"All these things being effected, compass in a plot of ground convenient for a garden, which, stored with a variety of sweet herbs and flowers, yields much content and profit, both for the pleasure and health of man."

This extract is from "The Philosopher's Banquet, Newly Furnished and Decked Forth." All authorities say it is a translation of Michael Scott's work, and I bow to their decision; but the translation before me was made in 1633 by "W. B., Esquire," "the third edition;" and I opine my ex-

tract savours of "the many several dishes that in the former service were neglected," mentioned on the title-page. If the dish I put before the readers of "our Journal" was really and truly written by Michael Scott, then he was a wizard, for he set down in legible MS. thoughts that first came into other men's heads three centuries after he and his book of mystic lore were entombed in Melrose Abbey.

Sir Walter Scott, though he never saw what he commends, tells us to see that abbey by the "pale moonlight," and I did so see it; and I fixed, to my own satisfaction at least, where "the herbary and kale garden" were,* and pictured its white-robed monks sending from the walls "red Pears of Busie," in return for the trout just received from their cowed brethren of Dryburgh, for a famous stream had they. Those Pears and some others were thus noted by one who knew them well:—

"During the monkish ages the greater part of our Apples and Pears were introduced to Scotland from France and the Netherlands, and cultivated near the abbeys by the ecclesiastics; and, from the old trees to be met with at such places, it appears that the Charnock or Drummond, the Crawford, the Christie, and the Longueville (a French Pear), were favourites with the ghostly fathers. It is also not improbable that the art of raising fruit trees from seed was at that period known and practised. This conjecture is strengthened by the fact, that in almost every very old orchard one or two trees are to be met with which are to be found nowhere else, except where the merit of the fruit has attracted the attention of nurserymen, by whose means they have been transferred in later times to other orchards; for instance, the Red Pear of Busie, a beautiful, small, and good early Pear, is only found on young trees, except in the orchard at Busie, about a mile north of Perth, where the original tree is still standing, though in a state of much decay. The Benvie is more extensively cultivated; the original tree, or rather a part of its remains, is still alive in a small orchard on a farm of that name, to the east of Rossie Priory, in the Carse of Gowrie. Pear Duncan, a beautiful Pear, little known, till very lately was only to be found at Gourdie Hill, the seat of Patrick Mathew, Esq., in the parish of Errol; that gentleman has given it deserved celebrity; it takes its name of Duncan from a former proprietor of Gourdie Hill. The Flower of Monorgan is found nowhere but in the extensive orchard of that name. The Black Pear of Bog Mill is only found in the orchard there; and the Busked Lady, and Pow Meg, are peculiar to the orchard of Port Allan, on the north bank of the Tay, opposite to Newburgh. The Elcho Pear seems to be an accidental seedling, now cultivated at the old castle of Elcho. And many varieties of inferior value are to be found in almost every very old orchard, whose qualities have not procured for them any culture beyond the precincts of their original habitation. Every orchard of long standing has its own Pear Diel, and no one Diel is like another; neither does any orchardist covet the Diel of his neighbour."

I followed the path round the base of the Eildon Hills, along which doubtless many such interchanges as I have noted were made; and I crossed by the ford that they crossed, and on the hillside beyond, on an arched gateway, read gladly this inscription:—

"Hoc pomarium, sua manu, satum parentibus suis optimis sac. d. s.
Buchanais comes."

Such an orchard, for it is well stocked with thriving Apple and Pear trees, is a goodly testimony to Earl Buchan.

Dryburgh Abbey is but "a bittock" from thence; and I pondered there over the epitaphs of that Earl's ancestors, and thought the orchard a better memorial; and of the Earls of Mar, and of those of wider and worthier fame—Sir Walter Scott, and some of those dearest to him. One of those, now resting by his side, I had met in a more torrid clime, and could tell of adventures there: but I must drop my pen.

Next day I recrossed the border, and saw no more of what Scott has briefly described as

"Land of brown Heath and shaggy wood,
Land of the mountain and the flood."

—G.

PICEA NORDMANNIANA.—I have a *Picea Nordmanniana* in my pinetum 26 feet high; breadth of branches, 13 feet 9 inches; girth of trunk, at 2 feet from the ground, 24 inches; and it is well furnished with cones. It is much admired by all who have seen it.—B. HANBURY, *Poles, Wares.*

* The entire garden was walled, and a mile in circumference.

GOOSEBERRIES OF GOOD FLAVOUR.

You will oblige me by stating what Gooseberries you would recommend for flavour as well as size. I wrote to a most respectable nurseryman on the subject; and he assures me that the very large kinds are deficient in flavour, and he has found them unsaleable for that reason.

I cannot understand why prizes are given for such fruit as London, red and green, Ploughboy, &c., if they are deficient in the chief requisite of all fruit—flavour; but I have had to discard some sorts—dark brown, yellow, and white fruits of good size, but insipid, and have no wish to return to them: therefore I seek your counsel in the matter.—H. N. B.

[The nurseryman was quite correct in stating that the largest prize Gooseberries are deficient in flavour; and you may justly express surprise that size, not good quality, is encouraged by the prizes offered. It is the same at Celery, Cucumber, and cattle shows—size, not utility, is chiefly considered. One reason for this is that weight is much more easy to determine than any other quality. We recommend the following varieties of Gooseberry, quite irrespective of prize lists:—*Reds*: Ironmonger, Warrington. *Yellows*: Moreton Hero, Yellow Champagne. *Greens*: Green Overall, Pitmaston Green Gage. *Whites*: Snowball and Whitesmith.

The book you mention can be had free by post from our office if you forward twenty-six postage stamps with your address.]

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 16TH.

FLORAL COMMITTEE.—But very few specimens were exhibited at this meeting, the lateness of the season is a sufficient explanation; and had there been a good display of plants, the dense fog would have quite prevented their being seen to advantage. Mr. Bull sent several plants of interest, among which were *Tillandsia argentea*, a very novel and remarkable plant, with narrow Rush-like leaves, covered with a woolly substance, which gave them the appearance of fine velvet—a first-class certificate was awarded it; *Pandanus Porteanus*, as exhibited not sufficiently distinct from other Palms; *Saxifraga Fortunei*, six or seven plants of which made quite a display—its curiously formed white flowers render it very useful in a conservatory at this time of the year; *Philodendron crinipes*, which it was requested should be sent again; *Fittonia argyrea*, which had received a certificate under the old name *Eranthemum argyrea*—a very pretty fine-foliaged plant; *Astrocaryum mexicanum*, a young plant, to be sent again; *Adiantum Lindeni*, a first-class Fern, but not shown in condition for an award; *Adiantum* species, probably a form of *Adiantum capillus-Veneris*; and *Tacca* (?) *picturata*, which it was thought would prove to be an *Amorphophallus*. A special award was given for Mr. Bull's collection. B. Morris, Esq., sent a seedling *Zonale Pelargonium* Maid of Kent, very deep rose, from appearances not a free bloomer; but it is too late to decide on these plants, and we hope to see it again. Mr. Joseph Morgan exhibited a seedling Fern called *Scolopendrium vulgare* Morgani; it is a distinct variety of dwarf habit, and the points of the fronds are very densely tasselled or tufted—it received a first-class certificate. C. Leach, Esq., Clapham Park, sent a collection of seedling *Nerines*, some of them very showy, especially *Nerine cornusca* major, with bright orange scarlet flowers, forming a good contrast with *Nerine Fothergilli*. A special certificate was awarded this interesting collection. Mr. Wm. Paul brought a seedling *Zonale Pelargonium*, Ossian, of dwarf habit, and having a great abundance of trusses of bright scarlet flowers. This must be seen again before its merits can be decided upon. Messrs. Veitch sent a very curious and interesting plant of a *Sarracenia*, of which the name at present is not decided; it formed a perfect star on the surface of the pot. A first-class certificate was awarded it. A nice collection of *Zonale Pelargoniums* was brought up from Chiswick in excellent order, and the plants were well covered with flowers.

FRUIT COMMITTEE.—With the exception of a collection of Pears, and dishes of Dutch and Mill Hill Hamburg Grapes, from the Society's garden at Chiswick, but little fruit was exhibited. From Mr. Turner, of Slough, came a fine dish of Cox's Orange Pippin Apple, and a box of British Queen Pear remarkably fine. Mr. H. W. Reynolds, Thame, Oxfordshire, and Mr. Leslie, St. Peter's, Margate, sent seedling Apples, to none of which, however, was any award made. Some fruit to name came also from Messrs. Veitch and Mr. William Paul; and Mr. Jones, Petworth, sent two dishes of Cranberries. Mr. Carr, gardener to P. L. Hinds, Esq., Byfleet, again exhibited fruit of the *Passiflora*, shown at the last Committee meeting, and which proves to be the Water Lemon, *Passiflora laurifolia*. As this, so far as known, is the first time fruit of the species has been ripened in this country, a special certificate was awarded.

FORTNIGHTLY MEETING.—The Rev. George Cheere in the chair. Two new members were elected, and the Erewash Valley Floral and Horticultural Society admitted into union, after which, in the un-

avoidable absence of the Rev. M. J. Berkeley, Mr. Wooster pointed out the principal subjects exhibited, adding at the same time some brief remarks. With reference to the variegated *Jasmine* shown by Messrs. Francis, of Hertford, at the last meeting, Mr. Wooster said that he had then mentioned having seen a very similar variety upwards of twenty years ago in the garden of the late Mr. Loudon, at Bayswater. He had at the time some doubts as to whether the plant was still alive, and he had gone to the house where Mr. Loudon lived, and having found the plant in the garden, he had brought specimens, cut that morning, which seemed to confirm the opinion that the variety in question is not new. In the "Gardener's Magazine" for 1839, page 60, a statement will be found with respect to its perfect hardiness during the memorable winter of 1837-8. After noticing the crested *Scolopendrium* exhibited by Mr. Morgan, and remarking that there were many beautiful forms of the common Hart's-tongue to be met with in Scotland, he added, in reference to the fruit of *Passiflora quadrangularis*, or *Granadilla*, shown at the previous meeting by Mr. Carr, that it forms a very agreeable drink in a silver tankard along with sugar and a glass or two of sherry.

WEEKLY SHOW, October 20th.—For the best collection of fruit Mr. B. Brown, gardener to R. H. Wyatt, Esq., Wandsworth Lodge, Upper Tooting, received the first prize for a very good and well-grown assortment, including a nice Queen Pine. Mr. R. Marcham, gardener to E. Oates, Esq., Bydorp House, Hanwell, received the second prize, and Mr. Young, gardener to R. Barclay, Esq., Highgate, an extra prize. Mr. Young likewise received an extra prize for a collection of Pears and Apples, also one for a collection of Onions. For the collection of miscellaneous plants Mr. Young received a third prize.

MR. WILLIAMS'S NURSERY, HOLLOWAY.

It is now some time since Mr. Williams removed the principal portion of his valuable collections from his old establishment, the Paradise Nurseries, to his new one, called the Victoria Nursery, at the foot of Highgate Hill; and with his plants he took what our continental friends would call the *administration* of his business, or in plain English, transferred thither his offices and staff. Rather more than two years ago some account was given (Vol. VII., page 174), of this nursery, together with a beautiful engraving of the interior of the spacious conservatory; and although *Rhododendron Nuttallii* does not at present, as then, add to the display by its magnificent and fragrant blossoms, the above representation, notwithstanding many changes in the contents of the house, will afford a tolerably exact general idea of its aspect, now that the arrangement of the plants for the winter has been completed.

Few, indeed, there are who could fail to admire, on entering this conservatory, the rich profusion of gracefully curving bright green fronds of the Ferns, intermingled with the stiffer forms which the majority of the *Yuccas* and *Dracenas* present; and though at present there is rather a deficiency of flowering specimens, by-and-by the *Camellias*, now plentifully studded with swelling buds, and plants from other houses, will give colour to the scene during the gloomy months of winter. As it is, nothing can be more grateful to the eye than the various shades of green foliage diversified by variegated plants and others remarkable for their singularity of form. At the entrance is a fine pair of the handsomely variegated *Yucca Stokesii*, and a little farther on, one on each side of the broad central walk, two very fine specimens of *Chamaerops excelsa*, each about 10 feet high, and one of which is now in fruit. It may here be remarked, that most of the large specimens are arranged, as far as possible, in pairs on each side of the main walk, and according to their size at various distances from the edging. The next pair consists of handsome specimens of the variegated Aloe-leaved *Yucca*, which forms an excellent contrast with the green foliage near it. We then come to two large plants of the old Double White *Camellia*, a fine pair of *Araucaria Bidwillii*, and in the centre of the house a pair of *Dicksonia antarctica* standing nearly 10 feet high, and on the opposite side of the cross walk two handsome specimens of *Dracena lineata*. At the intersection of the walks is one of Pulham's terra-cotta fountains, which is prettily clothed with *Isolepis gracilis*, which is so useful for this and many other decorative purposes where a pendent grass-like plant is needed, with *Selaginella denticulata*, and with various Ferns, the whole having an excellent effect. Proceeding onwards we find *Cycas revoluta* in fine condition, fruiting *Orange trees*, *Dracena draco* and *D. indivisa*, about 14 feet high, and two remarkably fine specimens of those singular plants the *Beaucarneas*, one of them being *B. glauca*, and the other *B. tuberculata*, the latter with graceful pendulous foliage. The central walk terminates at Mr. Wil-

Hanna's residence, and near this point there are two large and handsome specimens of *Dicksonia squarrosa*.

Turning now to the side tables, which are 100 feet in length, one of these is occupied by an extensive collection of Agaves, Yuccas, and Dracenas. Among many interesting kinds were Agave Schidigera showing flower, and believed to be the finest plant in Europe of this remarkable species; *A. filifera*; *A. americana medio-picta* having a broad yellow band down the centre of the leaf; a variety of *A. lophanta* with dark green foliage, narrowly margined with white, and having white spines along the edges; the handsome variegated *Yucca quadricolor*; *Y. filamentosa variegata*, a fine, nearly hardy, striped-leaved kind, but now rather scarce, not having withstood the severe winter of 1890; and a fine specimen of *Dasylirion acotrichum*. The other side table was filled with specimen Azaleas and miscellaneous plants, among which were two or three plants of *Cordylone indivisa* in fine condition, and variegated New Zealand Flax, which is not only a useful exhibition plant, but in all probability will prove equally hardy with the green-leaved form of the species. Attention has lately been directed to Nerines by those shown at the Royal Horticultural Society's meetings, and certainly these pretty bulbs deserve more attention than they have received; *corusca major* in particular, which was here in flower near the entrance of the conservatory, had very handsome heads of orange-scarlet flowers. Above the doorway, and densely covering the upper portion of the glass for a breadth of upwards of 40 feet, was *Cobaea scandens variegata*, an excellent plant for the purpose, being not only very ornamental, but of rapid growth and the easiest culture.

The stove, which, as well as the other houses, has been erected since our last visit, is a three-quarters span 100 feet long, 25 feet wide, and 20 feet high, and contains some noble specimens of tree Ferns, such as *Cibotiums*, *Cyatheas*, and *Dicksonias*, besides *Crotons*, *Dracenas*, and a variety of other plants, among which may be mentioned a fine specimen of *Dion edule*, which fruited last year. A second division of the same house is partly filled with Azaleas, and specimen *Allamandas*, *Stephanotis*, &c., in addition to which there are remarkably fine plants of *Pandanus reflexus*, *Cycas circinalis*, 10 feet high, with a spread of 20 feet, and *Anthurium acule*, with leaves 3½ feet long by a foot across. Six rows of shelves at the back are found very useful for holding a great variety of subjects, such as *Amaryllis*, *Gloxinias*, and *Marantas*. Beneath the slate shelves on which the large specimens stand, *Gloxinias* and *Achimenes* are stored, the latter including a large stock of the beautiful new varieties raised by Mr. Parsons, of Welwyn.

The next houses we come to are four span-roofed structures, each 45 feet in length by 18 in width, with a cement floor to secure dryness and cleanliness, and a tank to contain water of the requisite temperature for use.

The first house is chiefly filled with Ferns, of which the beautiful *Gleichenias speluncæ*, *microphylla*, and *dicarpa* deserve special mention, also an unnamed one from New Zealand, with the fronds silvery underneath. *Platynerium grande*, *Thamnopteris nidus*, *Nothochlæna sinuata*, *Lomaria gibba*, and *Adiantum Féei* were all represented by fine specimens, and we also noticed a pretty species in the way of *Adiantum concinnum*. There are also a number of Golden Ferns, one of the finest being *Gymnogramma lauchæana*, a nice collection of American Pitcher-plants, including *Sarracenia Drummondii* and its variety *alba*, with pitchers about 2 feet long, and an example of that curious plant *Dionaea muscipula*, or Venus's Fly-trap.

The next house, the greenhouse, contains fine specimens of *Pimeleas*, *Genethyllis*, *Eriacas*, *Phanocomas*, and other plants which will, doubtless, figure at the shows next year, together with *Rhododendron javanicum* and *Princess Royal* in flower.

The other two houses are devoted to Orchids, a class of plants in connection with which Mr. Williams has gained so wide a celebrity. The collection of these, it is almost superfluous to state, is very large; it is scarcely less so to add that there are many remarkable specimens, and that all are in perfect health.

In the cool Orchid-house there are in bloom several varieties of *Lycaste Skinneri*, *Lælia Perrinii*, *Miltonia candida grandiflora*, and *Epidendrum vitellinum*. The bright yellow blossoms of *Dendrobium chrysanthum* were also very ornamental. Among remarkable specimens not in bloom, were *Lælia anceps* with six spikes; the fine plant of *L. elegans*, which was shown at Nottingham and there so much admired; *Dendrobium densiflorum*, and *Arpophyllum giganteum*, each 4 feet across; and the plant of *Lælia superbiens*, which was originally sent home

from Guatemala by Mr. Hartweg, and was many years ago in the Chiswick gardens. This, after passing through several hands, is now in Mr. Williams's possession, and notwithstanding the various changes of ownership, it is now a flourishing specimen, covering a block 5 feet long, and measuring as much across. On the side tables, 45 feet in length, besides representations of other genera, there is a large stock of the best *Odontoglossums*, such as *Bluntii*, *nævium majus*, *Cervantesii*, *radiatum*, and the rose-coloured variety of *membranaceum*.

The East Indian Orchid-house is the next we enter. Here is a remarkably fine specimen of *Phalaenopsis rosea* which has been in flower for the last nine months, and Mr. Williams expects it to continue in bloom as many more; it has now eleven spikes of bloom. Large plants of *Vanda suavis* and *insignis*, as well as several plants of the autumn-flowering *Dendrobium Fierardi*, *Phalaenopsis amabilis*, *Miltonia candida*, *Cypripedium purpuratum* and *venustum*, and some others are also in flower; but the star of the blooming plants is *Sophranitis grandiflora superba*, of whose splendid orange-scarlet flowers there will probably not be less than a dozen in a few days. *Angraecum eburneum*, a valuable winter Orchid, of which there is a fine example, is not in bloom yet, but its variety *virens* is showing four or five spikes; the flowers of this, however, though more freely produced, and on more graceful spikes, have a greenish tinge instead of being ivory-white, as in the species. The foliage, too, is of a deeper green. Of species not in bloom there are fine examples of *Vanda Lowii*, *gigantea*, *Cymbidium eburneum*, beginning to throw out its flower-spikes; *Angraecum sesquipedale*, *Aërides Larpentæ*, *Saccolabium Holfordii*, various *Cattleyas*, *Dendrobiums*, and many others, in addition to a number of variegated Orchids.

The next house is a span-roofed stove 50 feet long by 24 wide, containing some fine specimen *Dipladenias*, *Ixoras*, and *Crotons*, the Lace Plant of Madagascar (*Ouvirandra fœnalis*), in an inverted bell-glass about 2 feet across, and a number of Pitcher-plants, among which *Nepenthes Rafflesiana*, *lævis*, *distillatoria*, and the hybrid *maiculata* are bearing numerous pitchers. There is also a plant of the variegated-leaved Pine Apple in fruit, and near it one of *Ananassa Portæana*, with central instead of marginal variegation, as in the older kind. There is also a stock of the beautiful new hybrid *Dipladenia amabilis*, figured in the "Florist and Pomologist" of the present month, new *Peperomias*, *Allamandas*, *Cyanophyllums*, *Alloacas*, and *Dieffenbachias*, and numerous varieties of *Gloxinia* and *Gesners*.

Other houses contained specimen plants of Azaleas, *Staticeas*, *Pimeleas*, and *Heaths*, new Azaleas, *Clematisses*, *Aucubas*, *Alternantheras*, a large and healthy stock of fruiting and succession Pines of different varieties, and particularly of the true Smooth-leaved Cayenne. In one of these houses we remarked *Thunbergia fragrans*, the pure white flowers of which render it valuable for bouquets, and on that account it is now much sought after for market purposes; it has besides the additional recommendation of lasting a considerable time in flower.

In the propagating-house, in addition to a number of other plants, such as *Anthuriums*, *Cyanophyllums*, *Gardenias*, &c., we remarked the fine new *Marantas*, *splendida*, *roseo-picta*, and *Lindenii*, as well as the *Tillandsia*, noticed in our Floral Committee report. Another house, 70 feet long, contains a large stock of bedding *Pelargoniums*; a new one, called *Andrew Marvel*, which happens to be in flower, is conspicuous by its peculiarly fine shade of scarlet. *Nosegay Le Grand*, another fine variety, has already been several times noticed in previous reports. Two small conservatories near a side entrance are principally occupied with specimen Azaleas, *Eriostemonas*, and *Pieroma elegans*, a remarkably fine plant of *Rhododendron Gibsoni*, young *Camellias*, and *Cyclamens*; and in the pits, besides greenhouse climbers, *Epacris*, and a variety of plants which it would be tedious to mention, are good collections of hardy Ferns and variegated plants.

In the open ground there is not, of course, much in flower at present. Two beds of late-planted *Gladioli* are, however, still rather gay; but what, perhaps, is of more interest at this season, is a stock of Vines for fruiting in pots and planting out, having well-ripened canes, and amounting altogether to about 1500.

Mr. Williams has a seed shop and warehouses fitted up for carrying on an extensive seed trade, and to meet the requirements of the plant-department, a packing-shed measuring about 60 feet by 80, with a carpenter's shop above, in which, as he constructs all his own buildings, the sashes and other wood-work of his houses are prepared.

SAND AND ITS MASTERS.

UNDER certain conditions, the sands which underlie the waters of the ocean, and have been formed either by agencies no longer in operation, or by running waters and other existing phenomena, heap up dunes or hillocks, and ridges along the shore. This apparently simple process is thus analysed by Jobard: "When a wave breaks, it deposits an almost imperceptible line of fine sand, the next wave brings also its contribution, and pushes the preceding line a little higher. As soon as the particles are fairly out of the reach of the water, they are dried by the heat of the burning sun, and immediately seized by the wind and rolled or borne farther inland. The gravel is not thrown out by the waves, but rolls backward and forward until it is worn down to the state of fine sand, when it, in its turn, is cast upon the land and taken up by the wind." This ordinary action is of course greatly intensified whenever a storm arises from the sea.

The sand, thus transferred from the control of the waters to that of the air, is urged forward by the breezes, and rolled up the gentle ascent of the shore, until plants, pebbles, or other slight obstructions arrest its course, and permit the accumulation of a heap. In this way an irregular line of somewhat conical hillocks is formed, which may reach a height of even 5 or 600 feet. By the same agency a second row of dunes is built up within the first, and then a third and a fourth, until these natural ramparts may form a belt of fortifications several miles in width. Thus does the ocean rear mighty and effectual barriers against its own incursions.

But "Forwards!" is as truly the motto of the sand-dune as ever it was of old Marshal Blucher, and the hillocks of the shore may become as formidable invaders as the sand-waves of the desert. The blown dunes advance landward often at a rapid pace, and if not arrested in their course, fields are rendered barren, plantations buried, and the dwelling of man overwhelmed. Instances of this on a scale of alarming magnitude may be found on the coasts of France, Prussia, and Denmark, and the total area of the sand-dunes of Western Europe has been estimated at nearly a million acres. This enormous extent of sand-covered soil would have been far less had man learned to imitate nature—a lesson which he has had to be taught in the bitter school of experience. Where human agency has not interfered, the sand-dune and its counterbalance, if we may so speak, may often be found side by side. The rampart heaped up by winds and waves needs but to be consolidated to become a benefit instead of an injury. This is accomplished by the quiet but mighty influence of vegetable life.

A goodly number of plants hasten to make the arid ridge their chosen habitat. Chief among them is the Sand Reed (*Ammophila arenaria*), provincially known as the Marram or Bent, a humble Rush, growing to a height of but a couple of feet, but sending its root-fibres to a distance twenty or thirty times as great beneath the ground, binding together the loose and incoherent soil. It flourishes only in an atmosphere charged with saline particles; and the seemingly barren sand is to it a rich and nutritive earth. Having accomplished its special work, that of arresting the drifting mass, this lowly plant withers and dies, and adds to the soil its quota of fertilising matter, preparing the ground for other races of vegetable organisms, so that at length "the wilderness" may "become a fruitful field," even by means of agencies apparently so inadequate. But man's interference with these natural compensations has furnished a singular and instructive chapter in the history of physical geography. The Sand Reed is found to possess various economic properties. Cattle feed on its leaves, and poultry upon its seeds, which have also been made into a coarse kind of bread; its fibres yield material for cordage, its roots are fitted for fuel, and the entire plant is used for thatching. With a degree of blind providence scarcely credible, the plants thus given to check impending injury to field and dwelling, are recklessly torn up by the roots to satisfy the necessity or convenience of the moment.

This practice has been continued for centuries; and there is reason for supposing that the present condition of the coasts of France, Prussia, and the Netherlands, already alluded to, is due to the destruction of dune-plants in past ages.

"Before the occupation of the coast," says a writer,* to whom we are indebted for several of the foregoing facts, "by civilised, and therefore destructive, man, dunes, at all points where they have been observed, seem to have been protected in their rear by forests, which serve to break the force of the

winds in both directions, and to have spontaneously clothed themselves with a dense growth of the various plants, grasses, shrubs, and trees, which nature has assigned to such soils. It is observed in Europe that dunes, though now without the shelter of a forest country behind them, begin to protect themselves as soon as human trespassers are excluded, and grazing animals denied access to them."

Among the dunes of our own island, those of Cornwall have acquired an interest in antiquarian eyes, from the disinterment some thirty years since of an ancient church and oratory at Perranzabulo, which the drift had hid for centuries. The Scottish coast also furnishes some remarkable deposits; in one of them lies buried what Hugh Miller graphically termed "an ancient fossil barony," with remains of a manor house and its humbler surrounding cottages; and it would appear that the catastrophe thus geologically recorded was due to the wasteful ignorance of the former peasantry of the district. For an act of Parliament of the time of William III. details the mischief occasioned by the "bad practice of pulling the Bent and Juniper," and strictly prohibits such destructive acts in future. Similar legislative measures have had to be adopted in continental countries. In one instance, however, the fault was certainly not with the people. King Friedrich Wilhelm the First of Prussia being sadly in want of cash, a certain Herr von Korff—a devoted Bismarck of the olden time—offered to fill the royal purse to overflowing if he were allowed to remove something quite useless. The delighted monarch at once gave his royal consent (as who would not to such a proposal?) and the loyal Herr proceeded to strip the sand-hills of the "Frische Nehrung" on the coast, of the forests which clothed and consolidated them. He sold the timber, raised the money, relieved his sovereign, set free the sands to march inland, fill harbours and channels, and damage fisheries, and thus completed an enterprise which the state would now give millions to undo. It is only of late years that nations have woken up to a sense of the folly and danger of an indiscriminate destruction of vegetable life. On the Continent the nature, laws of formation, and means of control of sand-dunes have been carefully studied, and various reparative measures adopted, mostly at public expense. The natural vegetation of dunes appears to be remarkably extensive; those of Jutland having been found to yield above 230 species, and those of the Prussian coast two-thirds as many.

Practical men have anxiously investigated the best methods of stimulating and accelerating these growths, and both in the Old and New World the Sand Reed and plants of similar habit have been extensively planted on moving dunes, and afterwards, when a soil has been formed, shrubs and trees have been established on the once shifting and arid wastes. The Birch in Denmark, the Maritime Pine (*P. maritima*) in France, and the *Ailanthus* (*A. glandulosa*) in Russia, have been employed for this purpose with great success. Many thousands of acres have thus been reclaimed, and modern science has made some progress in repairing the mischiefs wrought by ignorance in days gone by. Thus, educated man asserts his superiority to Nature by improving upon her processes. Yet, we repeat, the history of sand-dunes is but an elaborate comment on the truth that if we would make Nature our friend, when she seems most adverse to our interests, it must be by a reverent study of her laws—the laws of her all-wise Creator, and a humble imitation of her methods.—W. H. GROSSER, B. Sc. (in *Science-Gossip*).

PROMOTING SEEDING IN CUCUMBERS.

In answer to one of your readers who wants to know the best way of getting Cucumbers to bear seed, I send a plan that I have found will answer.

Let him tie the Cucumbers round with string when half grown, and let the string stay on till the fruit is ripe. He must tie the string round tightly, so that it will by degrees be embedded in the fruit as it grows. Let him put each piece of string from 6 to 8 inches apart. I found this plan answer well.—E. G.

VIOLA CORNUTA.

MR. BENNETT, of Osberton, and Mr. Wills, of Huntroyde, have both very kindly presented me with plants of *Viola cornuta*, and I have no hesitation in saying that they are very distinct varieties, the kind sent by Mr. Wills being very much superior to that sent by Mr. Bennett.

I was walking through the famous old garden attached to Bothwell Castle a few days ago, when Mr. Turnbull, the head

* H. J. G. P. Marsh. "Man and Nature." 1864.

gardener, called my attention to a miserable variety of *Viola montana* that he had received for *Viola cornuta*. Seeing, then, that there are so many varieties abroad, it is of the greatest importance to secure the only one that will give satisfaction as a bedding plant, and for this purpose the kind grown at Huntroyde is invaluable.—BRUCE FINDLAY, *Botanic Garden, Manchester*.

GRASSES FOR LAWNS.

AGROSTIS STOLONIFERA ANGUSTIFOLIA (Narrow-leaved Creeping Bent Grass).—This is frequently found on moist ground, and affords fair herbage, and is equally good for pasture or hay; but its chief value is for lawns with wet bottoms. It forms a close even turf, but is incapable of enduring drought, the creeping roots being near the surface.



Panicle densely crowded with florets. Florets small. Inner valve of the calyx smooth, outer valve serrulated. Corolla without any rudiment of an awn.—G. ABBEY.

(To be continued.)

SEEDING CUCUMBERS—WINTERING BOUGAINVILLEA SPLENDENS.

YOUR correspondent "CURCUMA" asks for "the best plan of making Cucumbers seed freely." I think if he give the following plan a fair trial he will find no difficulty in obtaining plenty of good seed. Take a cutting of a young, healthy, but not over-vigorous shoot of the variety from which seed is desired, strike it in a thumb-pot in a gentle bottom heat, and, when well rooted and beginning to grow, put it into an eight-inch pot, using rather rich compost. Train it, without stopping, as near the glass as possible, till a well-formed fruit is developed; then stop the shoot one joint above the fruit, and keep all the laterals pinched to one leaf, so that the strength of the plant may be thrown as much as possible into the fruit. Of course the necessary attention must be paid at the proper time to fertilising with the pollen of a male blossom of the same variety. Give occasional waterings with liquid manure, and a

moist atmosphere till the fruit shows signs of ripening, then very gradually withhold water.

I invariably reject all ill-formed and crooked fruit, having an idea that seed from them would reproduce the deformity. Can any of your readers state from experience whether such is the case? or is it only "an old woman's whim?"

I have a nice young plant of the *Bougainvillea splendens*. It has been kept in the stove all the summer, where it has made shoots about 18 inches long. I have now removed it to a late vinery, where the Grapes are just ripening, to harden its wood. Can you inform me if this is suitable treatment, and when I may expect it to bloom?—CUCUMIS.

[We have repeatedly tried your plan of growing Cucumbers from cuttings, not with the view of obtaining seed, but for winter fruit; and from their extreme liability to produce small fruit and of an inferior quality, we gave up the practice as bad, for our aim was not seed but seedless fruit, and that we never obtained except in the case of one or two fruit from a plant, all the others being more or less knob-ended and full of seeds. We never experienced any difficulty in obtaining abundance of seed, the female blossom being duly fertilised; nor have we found any difference between the fruit of plants raised from the seed of straight or crooked fruit. We find that impregnated or seeded fruit are much more liable to deformity than unimpregnated fruit, the deformity very often being in consequence of the seeding.]

Your treatment of the *Bougainvillea* is correct, only it must have in your late vinery abundance of light, with dryness at the root. It may flower in spring, but we apprehend it will not do so until more vigorous growth shall have been made and well matured, for this is essential.]

NOTES AND GLEANINGS.

We have been requested to again call attention to the fact, that there will be no meeting of the Royal Horticultural Society this day, as erroneously stated on the cover of the Society's pocket Almanack. The next meeting will be held on Tuesday, November 6th. The dates given in the body of the Almanack are correct.

THE authorities at Aldershot are encouraging the practice of gardening in the camp. Prizes are given every season for the best gardens to non-commissioned officers and men, and now it is announced that officers and others who may wish to enclose the gardens round their huts may have materials for that purpose by applying to the Deputy Assistant-Quartermaster-General. The various plantations which the engineers have been for some time planting around the camp and on the other parts of the manœuvring grounds will add their beauties to that of the various gardens. We hope some of the bedding plants being given away from the parks and Kew will find their way to Aldershot.

WE learn that a plant of *Calycanthus occidentalis* trained against a wall in Kew Gardens, is now ripening several of its fruit, which are not often seen in this country. The fact of ripe fruit of *Passiflora laurifolia* having been produced by Mr. Carr, gardener to P. L. Hinds, Esq., of Byfleet Lodge, as noticed in our last Number, and in our Fruit Committee report of this week, is also worthy of attention, as this is supposed to be the first time that the species has been fruited in England.

WE learn from our American namesake, that *Chilopsis saligna* has recently been introduced into cultivation at Philadelphia from Western Texas. It has Willow-shaped leaves and Bignonia-like flowers, which are strongly tinged with purple, and sweet-scented, like the perfume from rose water. It was by Cavanilles called *Bignonia linearis*. It flowers about the middle of May; is a small tree of about 15 feet high, but is most beautiful when in flower. It has a scanty foliage, and deciduous leaves; is a rapid grower, and delights in a dry climate and hard limestone soil.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Few observations at this season are requisite under this head, the operations being principally confined to wheeling in manure and trenching up vacant ground, taking care that the dead and dying refuse is trenched in or charred for manure. *Broccoli*, it should now be laid down, of course with the heads

towards the north; the manner of doing it is so well known that a lengthened description would be needless. *Carrots*, take up and store; a dry place under ground, where the temperature is not much affected by external circumstances, is best for this purpose. *Cauliflowers*, look well to, as also *Lettuces*; pick off decayed leaves, and dress with lime. *Globe Artichokes*, dress with some rich manure.

FRUIT GARDEN.

Now that the summer work is fairly at an end, it is time to take steps to provide against an inordinate pressure of business in the forthcoming spring, for any arrears of autumn or winter work at that busy period will prove a great hindrance to the carrying out a properly devised system during the ensuing season, and can only be justified on the ground of necessity. Planting, pruning, training, trenching, &c., are matters that belong peculiarly to this dormant season, and having before disposed of planting and trenching by directing attention to their importance, we will now offer a few practical remarks on pruning. The habits of fruit trees vary, more especially as to the manner of forming and exhibiting their buds; thus there is no difficulty in distinguishing the fruit-bearing portions of the Apple, or of bush fruit in general, whilst the Apricot and the Filbert are at this period somewhat obscure in regard to these points. Even in the Pear, such kinds as the *Passe Colmar*, *Seckle*, *Marie Louise*, and some others, it is difficult to prune with safety in the early part of winter. For these reasons, therefore, we say, Prune bush fruit the moment you can find time. Follow closely with *Cherries*, *Plums*, and *Apples*, and towards Christmas lay by the knife until the early part of February, when the Filberts will be blossoming; then, after a slight thinning of the crowded and inside spray, male catkins may be brought, if requisite, and suspended among the branches, and the Apricots will by this time give unequivocal signs by which to know the true blossom-buds; these, then, may immediately receive their pruning. The Peach and Nectarine will succeed the Apricot, and these may be followed by the Pear, and lastly by the Fig. In pruning bush fruit thin liberally. Let no two branches in the Black Currant and Gooseberry touch when finally thinned. These two seldom require shortening; an equal and judicious thinning is, therefore, everything here. In pruning Apples the thinning of the branches or old wood should be the first step; this, however, requires caution. The late Mr. Knight, of Downton Castle, was much opposed to cutting out large limbs unless a severe necessity existed. His authority is too weighty to be passed over easily, more especially as he lived most of his time in an Apple-growing district. In thinning the young wood of espaliers remember that the first point is to secure a continuance of leading shoots to form a compact tree, and the second to secure a free admission of light to all parts of the tree. The same remarks will apply to pruning all the rough espaliers or dwarf standards of the kitchen garden, be they of what kind they may. Raspberries may now be planted and pruned.

FLOWER GARDEN.

While a remnant of the summer's gaiety retains its verdure it should be permitted to occupy its position, as anything is preferable to bare beds. Due care must be taken for a future season by the preservation of such tender massing plants as may with advantage be employed for a second season's display; the dwarf Scarlet Geraniums and various Fuchsias repay the trouble, and are especially useful for vases or large beds. Roses may be transplanted towards the end of the month; preparations should be made to receive such subjects. Fresh dung, rotten stable-litter, and burnt earth form an excellent compost. Hardy creepers should be examined at this season, and all unnecessary spray removed, and their security from the blasts of winter made sure. Examine stakes and ties generally, forward all preparations for planting evergreens, lay turf, and prevent the accumulation of leaves on borders and walks. All the offsets of Tulips and small stock roots should be put in as early as convenient in the store-beds; they may be planted in rows 6 or 8 inches apart, and the strongest 3 or 4 inches apart in the row; the smaller ones may be closer together. The principal blooming roots may be put in at the earliest opportunity; but if the present dry and favourable weather continue no time should be lost in planting them while the soil can be worked with facility. Other spring-flowering bulbs, such as *Hyacinths*, *Narcissus*, *Jonquils*, *Fritillarias*, *Crown Imperials*, *Lilies*, *Snowdrops*, *Crocus*, *Dog's-tooth Violets*, &c., had better be planted as early as possible. The advantage of planting them while the ground admits of being worked with such

facility as at present, is too great to be overlooked. Plants of *Pansies*, as also of *Polyanthus*, *Auriculas*, &c., whether kept in pots or frames, or planted in the open ground, should be carefully watched to prevent the depredations of slugs, which soon work great havoc if neglected.

GREENHOUSE AND CONSERVATORY.

Hyacinths and other Dutch bulbs, if not already purchased, should be procured and potted without delay. Orange trees meant for forcing in winter for the decoration of the house should now be attended to. The Mandarin being a free grower, with a dwarf, bushy habit and small foliage, and a most abundant bloomer, is probably the best for ordinary purposes; but any of the varieties flower profusely provided the wood is thoroughly ripened in autumn. These and the deliciously fragrant *Daphne indica* are invaluable for winter-blooming, and should be largely grown for this purpose wherever sweet-scented flowers are in demand. Also see to having plenty of *Salvia splendens*, which is a very gay plant, and useful for mixing among *Chrysanthemums* in the show-house. Look carefully after the watering of large specimens of hardwooded plants, especially *Heaths* and other fine-rooted plants, which are soon injured by being either over or under-watered. Examine the specimens often and carefully, and where they are found to be dry water thoroughly, so as to moisten the whole of the ball. Let *Azaleas* be tied into form as soon as possible, in order to give them a neat appearance; also attend to the staking and tying-up of other plants as leisure time can be found. *Alepot* strong-growing *Pelargoniums*. Plants that are fairly established after repotting can hardly be too freely exposed to the air, or kept too cool.

PITS AND FRAMES.

In the case of cold pits, if not already done, prepare without delay straw shutters, or whatever else it may be intended to use for coverings. Expose the stock to air on every favourable opportunity, so as to check growth and make the wood firm. Give very little water at the roots; but look over the plants every few days, withholding water until it is absolutely necessary, and then giving a moderate soaking, which is the only safe method of watering at this season.—W. KEANE.

DOINGS OF THE LAST WEEK.

The first sharpish frost of the season came on Monday morning the 15th, and was sufficient to blacken a few *Kidney Beans* which were unprotected, a few *Heliotropes*, and especially to slightly injure some *Golden Chain Geraniums* in the flower garden. The weather has since been all that could be desired for harvesting and other work, and forwarding such garden operations as root-pruning, transplanting, when the trees were to be moved short distances, and giving the borders and summer ornaments in the flower garden about their last dressing for the season. It is amazing what a change has been made in *Geraniums*, *Calceolarias*, &c., with three days' sunshine, very many trusses opening quite nicely. We shall this week chiefly confine our remarks to making the most of the plants in the flower gardens and windows of small occupiers.

1. Many beautiful boxes of plants outside the windows will long retain their beauty, if they are lifted inside in the meantime at night, and are kept inside altogether as the days become more cold. Many a summer-box might thus be carried on almost to Christmas, and require little more than picking, watering, taking a decayed plant out, and placing another in.

2. A short time ago we saw a broad verandah beneath the level of the first-floor windows of a tradesman's house, very gay, chiefly with *Calceolarias* and *Scarlet Geraniums* in pots. The latter last week were masses of bloom, and were individually in pots from 8 to 12 inches in diameter. There need be no difficulty in keeping these where there is a greenhouse, whatever be the mode resorted to; but where there is not this convenience, and large plants of *Calceolarias* are wanted early out of doors in spring, the best plan is to prune pretty well back before they are frosted, take away a little of the surface soil, and add fresh, and keep the plants in a cool, rather moist place, such as in a back kitchen near a window, where they will have a little light, and be kept from frost. By the end of March they could be fresh-potted, and set out of doors with a mat or calico protection. Where this is too much trouble for *Calceolarias*, and the grower will be satisfied with nice healthy flowering plants in May, let him put cuttings in a pot as detailed for beds last week, using plenty of drainage, and sandy

soil for the cuttings, affording them little more than an inch a-piece, and set the pots (say 6 inches in diameter), in a cool room, where they can have light, and just be shaded from the brightest sunshine and kept from frost; they will then often far surpass old plants however carefully kept. Two years ago we saw a dozen pots of such *Calceolarias* on a rough table against a north window in a small room, and these filled half a dozen small beds in summer.

Such strong old *Scarlet Geraniums* as those above alluded to, are the easiest and best kept from year to year in the same sized pot, and even in the same pot, and they are best in every way for those who have no conveniences but their rooms and a very small garden. All young-raised *Geraniums* must have light in winter to keep them healthy. These old-established plants require the veriest minimum of light in the dark winter months, and no better place for them can be found than a dry, cool, spare room, a hayloft, or a dry shed, which can be opened in fine days. The best mode is just to let the plants stand in the pots, and give hardly any water after the middle of September; the leaves will gradually fade and drop, but let them, so that by December the stems may be like skeletons. In drying weather it may be advisable to damp the shoots whilst the soil is left somewhat dry. In severe weather shut the place close up, doors and windows; if very severe lay the plants down, cover all over with a cloth, and then cover that with rough, dry hay until the frost is gone. A spare dry room will do better for preserving lots of such plants than any pit sunk beneath the ground, or even raised above it out of doors, because in proportion to the beneficial access of light, will there be danger from changes in the weather. In spring, as the buds begin to push on the stems, a little pruning should be given where required, the surface soil removed, water with the chill taken off given a little at a time, rich compost applied at the surface, and all the light possible afforded in fine days. Such old *Geranium* plants looking pretty well like a small faggot in winter, and which will not have a leaf larger than a shilling before the middle of March, will become dense masses of bloom, and have healthy, though not over-luxuriant foliage from June to October. Such cool, dryish treatment in winter suits these plants better, by enabling them to rest, than keeping them growing all the winter through in rooms where a fire is constantly kept up. The generality of plants suffer from too much heat and too much dryness in the air in such places, just as they are apt to suffer from too much moisture and confined air in pits of any kind, and especially if these be sunk. Much more safely and easily than in any pit, the great proportion of our bedding plants may be kept in a moderately lighted spare room, as those needing most light could be moved nearest the windows; covering could also be applied more comfortably than amid the changes of weather out of doors, and then in the greatest necessity of extreme frost an opening in the closed chimney could be made, and a little fire used.

We revert to what may be well done in a spare room provided with a window or two, because many amateurs, we are convinced, would be more successful and more pleased in carrying on their operations there than in attending to a sunk unheated pit out of doors. There has been an idea prevailing lately that, provided a pit be sunk low enough beneath the ground-level, very little covering will suffice to keep it warm enough for all common bedding plants; but the fact is lost sight of, that unless expensive cementing processes are resorted to, it is next to impossible to keep the atmosphere of such a pit dry in damp weather; and it should never be forgotten, that in proportion to the moisture of the atmosphere round the plants in winter will be their liability to suffer from frost, which they would escape unscathed if the stems and the atmosphere around them had been drier. Some of the plants that suffered out of doors here on Monday morning would have been little touched but for the drizzling rain on Sunday night. The dry air on Tuesday night caused the frost of Wednesday morning to be innocuous, and such matters will show more in the confined atmosphere of a sunk pit. Of course the gardener manages such contrivances merely as a matter of routine, but the least slip, or the forgetfulness of a night or a few hours, in the case of the tradesman owner, soon settles the whole affair, and renders all further care useless. The covering out of doors, too, soon becomes wet, frozen, and not the most pleasant to handle, whilst if under cover it is always the same. A good bag of short dry grass, or of rough hay, would answer all through the winter, if employed in loft, shed, or close room. It is amazing what numbers of plants can be brought to the flower garden from a single unused room.

3, The cellar, too, if there is one, comes in for the best of all places for bulbs; tubers, as *Dahlias*; and fleshy roots, as those of the larger-growing *Lobelias*; and for *Fuchsias* no place can beat it, after their wood is ripened until the buds begin to break in the spring, when the plants should be gradually exposed to light, be pruned a little, and be fresh potted, by parting with a good deal of the old soil. If the soil in the pots of *Fuchsias* is just moist when the pots are set on the floor of the cellar, and the floor itself is somewhat moist, then no water will be wanted all the winter.

4, Such rules will not hold good in the case of any plants that are either kept or grown for their beauty in living-rooms. Even those at rest will want a little water if ever they show signs of shrivelling and of distress, owing to the dry air from the fire in the room; but all those in a state of rest, as the *Geraniums* established in pots, may be kept in the coolest places and where less light may reach them than would be needed for young plants, and growing and flowering plants, as *Violets*, *Primulas*, *Cinerarias*, *Geraniums*, bulbs, &c. The great point to aim at in their case is to keep the leaves clean, turn and shift so as to admit to the light by turns, water carefully, using water as warm at least as the temperature of the room, neutralise the dry atmosphere by cleaning and damping the foliage, and to secure against frost by removing the plants to the middle of the room at night, and in extreme cases covering them with a cloth. Many years ago we described a little stage on castors that could be easily moved with its complement of plants, and having iron rods fitted to sockets, so that it could be covered with a thick cloth in a few minutes, and the plants secured from cold.

5, Although the fine days are enticing us to take the most pleasure possible out of our flower-borders, we must remember that winter is at hand, and that what we mean to save from the frost had better be taken up before long; and if a single sharp frost should threaten, it would be best to take up all that are to be preserved, and set them in a place of safety, until you have time to look them over and pot them.

Some of our readers have had plants from gardens offered them, and request advice as to the taking and management. We would only say,—

First, If you so take up or receive, do it quickly, as many plants if at all affected by frost, though they do not show it much, will never recover, but will merely maintain a sickly, puling existence. We have seen *Geraniums* that seemed merely touched at the points, but they went downwards and downwards until nothing worth keeping was left. We have heard of the stumps breaking well after the tops were frozen, but we never found them worth the labour.

Secondly, Every kind of bedding plant may be kept in a living-room, if it be moved about to obtain fresh air, be saved from the arid atmosphere, and kept from the frost; but for those with limited means, and, perhaps, only a spare closet or spare room with a window, whilst disregarding none, we would chiefly recommend *Scarlet Geraniums* and *Fuchsias*.

Shrubby Calceolarias will do very well if kept moist, cool, and free from frost, and though such plants are liable to go off in spring, still if they stand they will produce great heads of bloom early; but even now for general purposes, we would prefer good-sized pots filled with cuttings, the pots being set on the window-sill, and protected with thin paper funnels in sunny days.

Verbenas.—We have been asked about receiving old plants out of the ground, but though they thrive occasionally, they go off so often as not to be recommended. A pot of cuttings inserted in August or the beginning of September, and protected by paper or a square of glass laid over a larger pot, whilst your cutting-pot stood inside of it, would answer your purpose much better, and take less room than any mode that could be adopted with old plants taken out of the ground.

On the whole, nothing answers so well as *Scarlet Geraniums* when taken up at this time, and even they are not so sure and successful as those that have stood in pots in summer. Even if planted out in their pots, the stems will be more firm than those planted out fully in the ground. In either case success will be more certain if the plants have not been touched by frost. There are two modes in which, judging from our own experience, we would recommend this to be done. In the first place, when large, tall plants are desired, we save the top of the plant to its full length, take up the roots carefully, shortening only the longest, and squeeze them into the smallest pot that will hold them, using light sandy soil firmly pressed; the top will most likely need a stake to sustain its shoots loosely. After watering

and housing the plant, the leaves are frequently syringed to keep them from dropping prematurely, and then the stems are syringed frequently at first to prevent their shrivelling. After all this a few points may shrivel, but the bulk of the stems will keep fresh even when most of the leaves after a time have dropped. In this state they will need little light, unless it is convenient, until the stems break all over at the joints, when the shoots must have more room, and the roots receive fresh compost, and more feeding ground, and the ultimate size of the plant will be much according to the accommodation that can be given.

The second mode is much simpler, and more suitable for general circumstances, and much the best every way for those who are to take the plants to, or receive them from, a distance. Take them up with a fork much in the same way, then prune in the heads so as to leave only one or two joints of the lower ends of the shoots. What is left of the top of the plant will be a somewhat stag-horn-looking affair in miniature, but all the wood left will be firm. There will be no necessity for leaving a single leaf. The roots may be shortened to from 4 to 6 inches from the collar of the plant. If we have much to do, we prefer dipping the roots in water of the temperature of about 60° for ten minutes in preference to soaking the soil. We can then either pot the plants singly in sandy loam, using as small pots as the roots can be squeezed into, or we pack a lot firmly in a pot, and, what is better still, in a box, not more than 6 inches deep, with good drainage. The advantage of the box is, that the wood keeps the soil more equable. In all these cases we pack firmly, and then water gently, leaving a space of about an inch to be added and pressed without watering. Such pots, and especially such boxes, if protected from frost, and the tops are moistened now and then without wetting the soil, will keep very well in a dry cool place, until the little leaves begin to start in March, when more light and water will be wanted, and the plants will need to be planted or potted separately.

If the plants be kept in living-rooms they will require a little water during winter, and the stems to be slightly syringed, but not to damp the soil too much. The whole matter would be greatly simplified to beginners could they patiently wait longer for the fresh growth, for the sooner it comes, owing to the heated room, the weaker it will be, and the more liable to feel the effects of all changes afterwards. Some of the best boxes and best beds of Geraniums we ever saw had not a leaf larger than a shilling at the end of March. If the stems keep sound all the winter they will be sure to break time enough.—R. F.

COVENT GARDEN MARKET.—OCTOBER 20.

THE markets continue to be well supplied, and there is no alteration worth quoting. Pears and Apples, comprising the usual varieties at this season, and Pines and Grapes, are amply sufficient for the demand.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples ½ sieve	2	0 to 3	Melons..... each	2	6 to 5
Apricots doz.	0	0 0 0	Nectarines..... doz.	0	0 0
Cherries..... lb.	0	0 0 0	Oranges..... 100	12	0 90
Chestnuts..... bush.	12	0 0 0	Peaches..... doz.	6	0 12
Currants..... ½ sieve	0	0 0 0	Pears (dessert) .. doz.	1	0 2
Black..... doz.	0	0 0 0	Kitchen..... doz.	1	0 2
Pine..... doz.	0	0 0 0	Pine Apples..... lb.	8	0 5
Filberts..... lb.	0	6 1 0	Plums..... ½ sieve	7	0 0
Cobs..... 100 lbs.	0	6 1 0	Quinces..... ½ sieve	5	0 0
Gooseberries..... quart	0	0 0 0	Raspberries..... lb.	0	0 0
Grapes, Hothouse. lb.	2	0 5 0	Strawberries..... lb.	0	0 0
Lemons..... 100	8	0 14 0	Walnuts..... bush.	10	0 20

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes..... each	0	2 to 0 4	Leeks..... bunch	0	3 to 0 0
Asparagus..... bundle	0	0 0 0	Lettuce..... per score	1	0 1 6
Beans, Broad..... bushel	0	0 0 0	Mushrooms..... pottle	1	6 2 6
Scarlet Run, ½ sieve	2	0 8 0	Must. & Cress, punnet	0	2 0 0
Beet, Red..... doz.	2	0 8 0	Onions..... doz. bunches	4	0 6 0
Broccoli..... bundle	1	0 1 6	Parsley..... doz. bunches	2	0 8 0
Brus. Sprouts ½ sieve	2	0 8 0	Parsnips..... doz.	0	9 1 8
Cabbage..... doz.	1	0 2 0	Peas..... per quart	0	0 0 0
Cauliflowers..... 100	2	0 4 0	Potatoes..... bushel	2	0 4 0
Carrots..... bunch	0	4 0 6	Kidney..... do.	8	0 4 0
Cauliflower..... doz.	2	0 6 0	Radishes doz. bunches	0	6 1 0
Celery..... bundle	1	0 2 0	Rhubarb..... bundle	0	0 0 0
Cucumbers..... each	0	4 1 0	Savoy..... doz.	0	0 0 0
Pickling..... doz.	0	0 0 0	Sea-kale..... basket	0	0 0 0
Endive..... doz.	2	0 0 0	Shallots..... lb.	0	8 0 0
Fennel..... bunch	0	3 0 0	Spinach..... bushel	2	0 3 0
Garlic..... lb.	1	0 0 0	Tomatoes..... per doz.	1	0 2 6
Herbs..... bunch	0	8 0 0	Turnips..... bunch	0	4 0 6
Horseradish..... bundle	2	6 4 6	Vegetable Marrows ds.	0	9 1 0

TRADE CATALOGUES RECEIVED.

Eugène Verdier, fils aîné, 8, Rue Dunois, Gare d'Ivry, Paris.
—*Rosiers nouveaux pour 1886-1887.*
Louis Van Houtte, Ghent, Belgium.—*Catalogue de Plantes de Serre Froide, Azalea indica, Cactées, Camellias, &c.*—No. 116.

TO CORRESPONDENTS.

. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

LOCAL HORTICULTURAL SOCIETIES (J. Taylor).—We know of no published list of these. You had better advertise, asking the secretaries of such societies to write to you.

HYACINTH POTS.—"J. M." wishes to know where these can be obtained. We have found that Hyacinths can be grown quite as well in common flower-pots.

VAPORISING SULPHUR (W. A. O.).—We know of no invention specially for this purpose. It is easily done by placing flowers of sulphur on a hot-water plate, the water underneath it being at a boiling temperature.

GRAPES ON FLUED WALL (W. C.).—There is no place in England, probably, where Black Hamburgh Grapes could not be ripened on an open wall flue-heated. In Hampshire we have seen very fine bunches ripened on an open wall without flue heat.

PLANTING FILBERT SUCKERS (Novice).—You may remove all the suckers from your plant with as much root as you conveniently can obtain with each without injuring the parent tree too much. Most likely the suckers proceed from some large root near the top; and the only way is to cut that root in two above the suckers, and take it out to its full length, when the roots may be reduced and the suckers planted. They will speedily become bearing trees. It would be as well, after all the suckers are removed, to leave the hole made by taking the suckers away open for some weeks in the early part of winter, which is said to prevent an undue proportion of suckers being formed. The Filbert, as a fruit tree, is subjected to very severe pruning, which you will see fully explained in a future number.

WATER FROM IRON CISTERN FOR WATERING PLANTS (A Subscriber).—We have two iron tanks 6 feet square and 6 feet deep, and two of stone of like capacity, and we find no difference whatever in the water from the tanks for the greater part of the year; but during hot weather that in the iron tanks becomes of a pale milky tint, and acquires a slightly disagreeable smell, and it is to some extent injurious. For many years we used no other water than that conveyed in iron pipes, and kept in iron tanks to become aired before use, and have not experienced any injurious effects from it. Iron is found in all soils, in natural waters, and in all plants, and is not injurious to any if only the clear water be employed, instead of the rusty sediment. The water should not be drawn from the bottom of the cistern by a tap, but from the top by dipping the watering-pot into it, and the tank being occasionally cleaned out the water will be found as good as any for horticultural purposes, and much better than that taken from lead or galvanised iron cisterns.

PRIMULA LEAVES YELLOW (George).—We think the most likely causes are crowding the plants, and maintaining too high a temperature, and a dry ungenial atmosphere.

FUCHSIAS IN COLD FRAME (Idem).—Your plan will be to keep the plants in the pots as they are, dry and protected from frost during the winter, and in April to shift them into 4½-inch pots, shaking them out and disentangling the roots. Keep the plants close until they have made shoots an inch or so long, and when the pots are full of roots, give a final shift into eight-inch pots. Keep the plants well supplied with water, syringing them copiously morning and evening after May, and give them plenty of air. If the shoots grow straggling stop them frequently, which may be done six weeks before the period at which you wish them to bloom. They will flower in July and onwards.

GARDENERS' EDUCATION (Doubtful).—There is no "absolute necessity" for a young man going into a nursery; but if he can get into a good one for a twelvemonth, and keep his eyes about him, he will obtain varied information, for which he will be the better off through life. Times of moving are mostly determined by the neighbourhood. Spring is best for London.

LONIATIA (A. Wilson).—We know of no such plant. Lomatia is the nearest name, but none of that genus are native of Japan. If you mean *Lonicera aureo-reticulata*, the golden-veined Honeysuckle, brought by Mr. Fortune from Japan, it is quite hardy enough to endure the winters of the southern counties of England.

SEEDLING VERBENA (R. S.).—Your Verbena is very beautiful in colour; but no opinion of its habit or truss can be expressed from a single specimen. The flowers were rather too jagged. Let us see it again another year. It is very hazardous to judge of the merits of any plant from the first blossom.

POTATO DISHIE.—At page 291, col. 1, line 87 from bottom, "April last" must be substituted for "August last."

OLENODENDRONS THOMSONI AND THOMSONI BALSOPURANUM (T. C.).—They are alike in every respect except size. *Balsopuranum* is by far the finest variety.

QUEEN ANNE'S POCKET MELON.—We have to thank a Perthshire correspondent who has "enclosed a few seeds of the genuine Queen Anne's Pocket Melon for his classical friend who has forgotten his Gaelic. The Melon is about the size of a small Orange, most beautifully striped with a rich brown on a green, sometimes golden base, looks magnificent on table, is a great bearer, and of fine flavour." Any one of our readers wishing for a few of the seeds shall have them if they enclose a stamped and directed envelope.

ANALYSIS OF GRAPE VINE (South Street).—The sap of the Vine has been examined by Dr. Prout. It has a whitish appearance like common river water. Its taste sweetish but rough. Only one part of residuum was left when 2,500 parts of the sap were evaporated to dryness. Half of that one part was carbonate of lime (chalk), and the remainder chiefly vegetable matters. The sap contained carbonic and acetic acids and an alkali. M. Robiquet has also examined the sap of several species of Vine more minutely than Dr. Prout, and found in them carbonic acid, tartrate of lime, bitartrate of potash, and some vegetable matter. Verjuice, or the liquid obtained from unripe Grapes, contains tartar, sulphate of potash, sulphate of lime, much citric acid, a little malic acid, extractive, and water, but neither gum nor sugar. As the Grapes advance to maturity, the citric acid gradually disappears, and gum and sugar appear in its place. The juice of ripe Grapes contains also gluten and fibrous matter, merely in a state of mixture. The substances held in solution are chiefly sugar, syrup, gluten, gum, and extractive. When this juice is evaporated to dryness, it yields from a third to a fifth of solid matter, according to the species of Grape employed, and the season of the year. To extract the sugar from this juice, Prout saturated the acids which it contains with potash, boiled it down to a half, and left it at rest. By this means several of the salts subsided. Its specific gravity was 1.215. It was then mixed with blood, heated, skimmed, filtered, and boiled down to a syrup. It finally becomes crystallised, and resembles the raw sugar from the West Indies. In this state its specific gravity is about 1.500. This raw sugar, according to Prout, is composed of

Crystallisable sugar	75.00
Syrup, or uncrystallisable sugar	24.44
Gum	0.31
Malate of lime	0.35

100.00

besides some extractive, the quantity of which cannot be well ascertained.

VINEY (Idem).—We approve of the ventilating each side of your span-roofedinery opposite the hot-water pipes, and also your openings at each end of the house for ventilation, which would have done for a house from 80 to 40 feet long; but to make sure in a house of 60 feet, we would like a couple of ventilators near the centre of the house. We do not think that two pipes on each side of such a steep span will be enough to ripen Grapes in April or May. You would require at least half as much more, and then you would save fuel. The distance of the Vines, 2 feet 5 inches apart, will do; but nothing can be grown beneath them. The Vines should be 15 inches from the glass. Fourth sheet glass will answer very well, but thirds will be better, and be less apt to scorch, as there will be fewer blisters. But for these blisters there is no chance of scorching if ventilation is attended to. Your roof being so steep, there is less chance of breaking from hail, &c., or 21-in. glass would often be cheaper in the end than 15-in. However, we have had 15-in. fourths for some years, and the large squares have as yet yielded, bent to the hail, whilst we know the hail went through, or at least it cracked and broke thicker glass, because it would not bend. In exposed places, however, or where hailstorms are general, 21-in. would be the safest. A 16-foot-wide house ought to give border enough for two sets of Vines, one on each side. As you have plenty of maiden loam we would make it of that chiefly, with a good lot of bruised boiled bones, making it from 24 to 30 inches deep, with a deep drain in the middle. Let it have a concrete bottom, and 9 inches or 12 inches of rubble above the concrete, and reverse the sods above the rubble.

VINE CULTURE (Agnes).—The book to which you allude is not that treatise which was promised on "Vines in a Greenhouse." What was promised was a manual of Vine culture, which would include the cultivation of Vines in a greenhouse. This you will find in the "Vine Manual," which you can have free by post from our office for thirty-two postage stamps. To have Grapes ripe by the end of July, the fires should be lighted in the first week in March, and till then only put on a little fire occasionally to keep out frost. For the first fortnight the temperature should range from 40° to 45°, increasing to 50° at night at the end of the second fortnight. Let the temperature be 55° at night at the end of the third fortnight, or by the time the Vines are in leaf. When the bunches show, the temperature at night should be 55°, and let it gradually increase, so as to be from 60° to 65° when the Vines are in flower. After the fruit or berries are set the night temperature should be 60°, and not less than 55°, and this temperature, or one not exceeding 65°, is to be maintained until the fruit is ripe. On these, which are all night temperatures, allow a rise of from 5° to 10° on dull days, of from 10° to 15° on those which are cloudy with clear intervals, and of 15° or 20° on clear days, affording at the same time abundance of air. You must employ fire by day or night to maintain these temperatures, for after the fires are once put on they must be continued whenever necessary to keep up the temperature suitable to the growth of the Vines. When the berries change from green to red, that is a sure sign of their ripening; and all plants requiring frequent watering should be removed without further delay. This will not occur before bedding-out time, but about the middle of June, or six weeks previous to their being fit for table; for though the Grapes will colour in half that period, they require to hang some time longer to attain a certain degree of mellowness. The evil of which you have the most frequent cause to complain is shanking, which you will readily distinguish by the berries turning soft and remaining red and sour. This evil is of most frequent occurrence where the roots of the Vines are deeply situated in a cold, wet, badly-drained outside border. The remedy consists in bringing the roots nearer the surface, raising the border so that stagnant water may not lodge, and forming it of materials that will not become close and heavy. What is it you wish for respecting Pelargoniums? Guano water is a good manure for Vines, giving the border a good watering when the berries are thinned, and again a little before they change colour, but only if the weather be dry. Two ounces to the gallon is sufficiently strong.

EVERGREEN FOR WEST WALL OF A HOUSE (C. H. R.).—You could not have a finer plant than *Bridgesia spicata*. The tub should be sunk in the ground, otherwise in severe weather the roots of the plant will be liable to suffer.

CARROTS FAILING (C. S. I. G.).—As the soil has been burned two years, and the crop is still attacked by the Carrot fly (*Pestis rosea*), we recommend you to proceed as follows:—The ground should be trenched in November to a depth of not less than 18 inches, and if any manure be applied (and such we invariably afford), it should be thoroughly rotten and placed at the bottom of the trenches, the ground, if at all heavy, being laid up in ridges, or in any case thrown up roughly for the winter. In the first dry weather in February, or as soon afterwards as the ground is in good working order, it should be levelled down and forked over so as to make it fine, choosing a frosty morning for the operation. If not ridged, which a good Carrot soil will not require to be, put on as much dry soot as will render the surface thoroughly black, and then as much fresh lime as will render it white. Fork these in, mixing them well with the soil, making the latter as fine as possible. If the ground is heavy, give it an extra forking in February as already directed, and apply the dressing of soot and lime in March, three weeks or a fortnight previous to sowing. If the ground is in good order, sow from the 1st to the 15th of April for the main crop, and when the plants come up look out for slugs, and if they are plentiful give a dusting with quicklime early in the morning or late in the evening. Another enemy is the Carrot-plant louse (*Aphis dauci*), which, taking up its abode in the crown, either destroys it or causes it to become much branched, and such plants never produce good clean roots. A dusting of newly-slacked lime should be applied as soon as the insect is perceived, and if a clearance is not effected the application should be repeated. We do not trouble ourselves further about grubs, but when the plants have two rough leaves we thin out to 8 inches apart in the lines, which are 12 inches asunder, and when all danger from loss by casualties is past, or when the roots are 6 inches than the little finger, we take out every other plant, or thin to 6 inches apart, and we thus obtain roots as large as we desire. Sowing Onions along with Carrots to prevent the attacks of the Carrot grub, or "rust" as gardeners say, is of no use. A stray Carrot or two on an Onion bed, from having plenty of room, may be more healthy and finer, but this merely shows that over-crowding induces unhealthiness or weakness.

PLANTS FOR CONSERVATORY BEDS (Florence).—Your conservatory having a day temperature of 60° in winter, and one of not less than 55° at night, is simply a stove. The plants suitable are by no means plentiful. *Hibiscus rosa-sinensis* will do for one, and also *Franciscia confertiflora*, *F. hydrangeiformis*, *Gardenia florida*, *G. florida variegata*, *G. radicans* major, *Hedychium Gardenianum*, *Euphorbia splendens*, *Eranthemum pulchellum*, *Clerodendron fallax flore pleno*, *C. Kämpferi*, *Burchellia capensis*, *Bougainvillea glabra*, *Justicia splendens*, *Hibiscus lutescens*, *Thyracanthus rutilans*, *Plumbago capensis*, *P. rosea*, *Pleroma Benthiana*, *Rondeletia speciosa* major, *Siphocampylus glandulosus* magnificus, *Laelia gratissima*, *Myrsine Vogeliana*, and *Medinilla magnifica*.

DRIVING AWAY ANTS (Idem).—Nothing that we know of will drive them away so effectually as guano sprinkled over their haunts or nests, but it will not do to sprinkle it on the pots of plants. A decoction of Elder leaves the ants do not like, and you may pour it over a plant of *Calanthe vestita* without doing it any harm. If the ants have their nest in the pot, why not turn out the plant, and pick away the compost into a bucket of boiling water? This may be done, and the plant rotted, without doing the latter any great injury.

GREENHOUSE (A. S. Lukin).—Apply to Mr. Hillier, carpenter, St. John's Street. He built the greenhouse, or rather orchard-house.

WHAT USE IS THE APHIS? (Henry).—You might ask the same question as to everything in creation that is occasionally injurious to man, and the inference you would draw—that they were made for no good purpose—would be in each instance the reverse of truth. Few things are injurious so long as they are kept in their right place, which they usually may be if man uses due diligence; and those things which do injure him without a want of care on his part are compensatory by a far greater amount of general benefit. It would be easy to show, if that were appropriate to our pages, the good effected not only by the aphids, but by more noxious insects. Besides, their lives are not, as you say, "nothing but misery to themselves and others;" and we rather agree with him who says—"Insects generally must lead a truly jovial life. Think what it must be to lodge in a Lily. Imagine a palace of ivory or pearls, with pillars of silver and capitals of gold, all exhaling such a perfume as never arose from human censor. Fancy, again, the fun of tacking yourself up for the night in the folds of a Rose, rocked to sleep in the gentle sighs of summer air, nothing to do when you awake but to wash yourself in a dew-drop, and fall to and eat your bed-clothes."

GLAZED GARDEN STRUCTURES (Aleph).—The aspects, north-west, as from a to b and c to d, and west by south, as from b to c, are not the most suitable for enclosing with glass. A lean-to against such walls would be the most convenient, and, according to the size, the place would be very useful for fruit and vegetables. For instance, from a to b we would plant some of the most insidious Peas; from b to c we would plant Peaches, such as the Barrington; and from c to d we would plant the best late Plums, as *Coe's Golden Drop*. You might plant the trees against the back wall, and have other little trees, as standards, in front, or trees planted against a trellis in front, and trained on a curvilinear trellis, so as not to shade the back wall. In either case the ground would be pretty clear in winter for salads, Cauliflowers, &c., and if you did not care about trees in front, then you could have early Peas, Potatoes, Beans, &c. In fact, the place would be of great value, though the aspect is in neither case first-rate.

WEEDS ON A LAWN (A Subscriber).—There is no better plan than to grub up the weeds by the root. You may do it from the present time up to the end of March, and then give a light dressing of very rich compost or well-rotted manure, and early in April sow over it *Cynosurus cristatus*, 4 lbs.; *Poa nemoralis*, 2 lbs.; *Festuca duriuscula*, 4 lbs.; *Festuca tenuifolia*, 2 lbs.; *Lotus corniculatus* minor, 1 lb.; *Trifolium minus*, 4 lbs. Sow on a dry day with an early prospect of rain, and, after lightly raking the lawn, roll well. It is necessary to remove all or as many of the weeds as possible before sowing, and though their removal may make the lawn appear bare, it will quickly regain its greenness. The quantity of seed named is for an acre.

WINTERING MRS. POLLOCK GERANIUMS (*Agnes*).—You will do well to place Mrs. Pollock and other golden-leaved Geraniums in a house with a gentle heat for a few days, and also winter them in a rather warm greenhouse. In a cool house they do not grow freely. Avoid damp, especially with cold. Cloth of Gold and Golden Chain with us this year have been fine; but they have done very indifferently in many places. Ours are grown in very rich open soil, which we find essential.

FRUIT TREES OVERGROWING A WALL (*A Scottish Subscriber*).—Your Apple, Plum, and Cherry trees which have overgrown your wall, 5 feet high, and a wooden fence of 7 feet in height, may be cut down level with the top, and the branches being trained horizontally, the trees will do at that height of wall and fence. Our espalier trees are not more than 8 feet in height, and we have some hundreds of yards of Pear and Apple trees trained horizontally. Your gardener's proposed plan of having a wire trellis fixed upon the top of the wall and fence is novel, and may answer, the only danger will be that the trees will be liable to injury from winds. We are not able to improve upon it. If your garden be sheltered the plan would be worth trial with the wall.

MAKING GARDEN ON A GRAVELLY SOIL (*W.*).—We also are now making a new garden, and our soil, like yours, is from a foot to 15 inches deep on a bed of gravel. We are trenching it as deeply as we can without bringing up the gravel, putting the top soil in the bottom of the trench. This is what we advise with your ground: trench it by all means, but avoid bringing the gravel to the surface. Your soil being shallow and well drained, we would not advise planting the fruit trees on mounds, for that would only tend to render the soil more dry, and the trees would be more liable to suffer from drought in summer, which you will have to guard against by liberal applications of cool manure and copious supplies of liquid manure.

ARRANGING TULIPS AND HYACINTHS IN BEDS (*F. J.*).—For a bed of early single Tulips you may have a centre of *Pottebakker* (white), *Rob Roy* (brassy crimson), *Canary Bird* (yellow), *Ma plus Aimable* (red, orange flakes), *Luna* (white), *Duc Van Thol* (scarlet), *Golden Prince* (yellow),

Vermilion Brilliant (scarlet), and *Jagt Van Delft* (white). Double Tulips, centre: *Marriage de ma Fille* (white, striped violet rose), *Yellow Rose* (yellow), *Rex Rubrorum* (scarlet), *La Candeur* (white), *Tournesol* (scarlet and yellow), *Imperator Rubrorum* (crimson scarlet), and *Duc Van Thol*, edged with *Scilla campanulata* (blue), and *S. campanulata alba* (white), which last are the best varieties of *Scilla campanulata*. They would have a good effect in conjunction with scarlet and yellow *Duc Van Thol* Tulips. Of Hyacinths you can only have them in red, white, and blue shades, beginning with white as a centre, then red, white, and blue, and so on. For the centre of an octagon bed, no evergreen is so gay as *Berberis Darwinii*, and yet we would recommend a tree Box of pyramidal form, a dwarf Holly, or something of that kind.

WINTERING GERANIUMS AND FUCHSIAS IN A ROOM (*Idem*).—The plants of Fuchsias and Geraniums would be preserved equally well in a room as in a cellar, providing it were frost-proof.

TREES FOR PLANTATION (*Chas. Wade*).—In your border 21 feet wide you will have room for five rows of trees. 1st Row, 3 feet from the boundary, back wall, or fence, *Lima* trees alternately with *Scotch Fir*; 2nd row, *English Elm*, with *Norway Spruce* between the Elms; 3rd, *Sycamore*, *Beech*, *Horse-Chestnut*, and *Spanish Chestnut*, alternately with *Yew* and *Holly*; 4th, *Purple Beech*, *Thorn Acacia*, *Mountain Ash*, *Norway Maple*, and variegated *Sycamore*, alternately with common *Laurels*; front row, *Lilac*, *Syringa*, *Ribes*, and *Gauldres Rose*, alternately with *Laurestinus*, *Aucuba japonica*, *Mahonia aquifolium*, *Berberis Darwinii*, and *St. John's Wort*. Plant in rows 4 feet apart, and the same distance from plant to plant in the row, an evergreen being placed between the deciduous trees. If the ground were trenched previous to planting, the trees would do all the better afterwards.

NAMES OF FRUITS (*N. K.*).—The Pear is *Thompson's*; the Apple, *Harefordshire Pearmain*. (*E. H.*),—The Pear is *Marie Louise*. No. 1, *Cellini*; 2, *Golden Requette*. (*P. R. T.*),—1 and 2, *Easter Bourré* Pear.

NAMES OF PLANTS (*W. S.*).—It is not a Fern, but an *Alchemilla*. (*E. S.*)—*Pilea muscosa*, or *Artillery Plant*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending October 20th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. sp.	2 ft. sp.			
Sun. . . 14	30.012	29.861	56	27	55½	55	N.E.	.00	Slight fog; overcast; frost at night.
Mon. . . 15	30.128	30.006	58	27	55	55	W.	.00	Fine; very fine; overcast; frosty at night.
Tues. . . 16	30.146	30.068	58	26	54½	54½	N.E.	.00	Foggy; fine; very fine; frost at night.
Wed. . . 17	30.046	29.990	57	41	52	58	S.E.	.14	Clear; quite cloudless; fine; very fine; rain.
Thurs. . 18	29.858	29.890	55	45	53	58	E.	.78	Overcast; rain; cold and wet throughout.
Fri. . . 19	30.060	29.948	60	47	54½	58	E.	.00	Fine; cloudy; fine; cloudy; fine at night.
Sat. . . 20	30.149	30.084	62	45	56	58	E.	.02	Foggy; overcast and mild; fine with clouds; slight rain.
Mean	30.059	29.954	57.28	36.85	54.21	58.79	..	0.94	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

POULTRY SUPPLY.

WHEN there were no exhibitions all the poultry that was bred was eaten at home or sent to market. There was no other mode of disposing of it. Now more poultry is kept, but all try for the "blue ribbons," the large prizes at the large shows, and also for the sales at exhibitions at prices that can only be realised after success. To compass this, birds are kept till they are too old for table purposes, and, on the other hand, the competitors are considered so valuable that after a selection of the likely ones is made, the remainder, the most numerous part, are either destroyed or neglected. As a rule, those who are the largest exhibitors contribute little, if at all, to the supply of food beyond developing the good qualities of the different breeds. This is no light work, and they deserve thanks for doing it; but here we come to a full stop. We have no class to step in, and, acting on the knowledge that is acquired, to breed for table purposes. Anxious on this, as on every other point that comes before us as public men, we have inquired into the fact, and the solution seems to be, that the former large supply of poultry was due to the small farmers in Surrey, Sussex, and parts of Kent. They have nearly all disappeared to make room for larger ones, and these pay no attention to poultry, beyond caring for chickens that are hatched out, and selling them to the best advantage. They do not seek to increase the number produced, nor are they at any pains to take advantage of the demand that is opening up. Beyond seeing to them for house consumption, eggs are not considered as farm produce, yet they are imported by hundreds of millions, and the money goes out of England for them by thousands and tens of thousands of pounds at a time. We import Geese from France, Holland, and Belgium; thousands of Turkeys, and nearly all our Pigeons come from France; Rabbits from Ostend in such quantities that they sell by weight as any other meat, and yet we go on buying without any effort to supply part of this enormous consumption at home.

If we were a statistical people our readers would be perfectly astounded at the weight of food brought into London during the winter in Ostend Rabbits—many tons weekly. They are bred and fattened by men who have few or no advantages, small houses and gardens; but all things are worked in with a sole view to profit. The refuse vegetables of the garden form an item in feeding. Not a cabbage leaf is wasted or spoiled. The heart of the cabbage figures on the table as a vegetable, but more often as a component part of the *soupe aux choux*, while the stalk is denuded of its leaves on behalf of the Rabbits till cabbages in Belgium are like the elms in the neighbourhood of Slough and Datchet, presenting a long straight small stalk, with a small round head. Everything is treated the same. The Rabbits are sent over skinned; the skins sell well, and are more valuable when fresh taken off than they would be after they had travelled. The feet are cut off, and serve for the manure of the garden that supplies the food. Much of the manure of the rabbits is sold, or else another garden is taken that it helps to render productive. At Avignon, in France, the lop of the withy cut in the autumn is stacked to feed the Rabbits in the winter; at Aix the same. Eggs, poultry, Rabbits are all articles of trade on a large scale, and it is followed by men of intelligence and capital. One man, whom we knew many years ago in France, began by a small trade of this kind between the two countries, and settled in England. At the time of his death, a few years since, he was turning £200,000 per year. Such trades are made up of many small producers, and a few collectors, who visit the places at stated periods, take whatever may be fit for the market. In the present dearth of food why cannot something be done here to stimulate production and enterprise, and feed both body and pocket?

DORKINGS.

I CANNOT allow the remarks of "NEWMARKET" in your last to pass unnoticed. First, as to Dorkings, "NEWMARKET" calls them ugly, heavy, clumsy birds; says their flesh is insipid,

and that they are the worst layers of all. That they are heavy, or ought to be, I gladly admit; it is one of their glories; but to call Dorkings ugly is simply absurd. I do not say they are pretty; but I know nothing handsomer than a well-matched pen of fine Dorkings. Even those who are not poultry fanciers at all admire them extremely. If they are so ugly and clumsy, how is it that we have so many lady Dorking fanciers? I give the fair sex credit for more taste and judgment than "NEWMARKET" has displayed in his attack on some of our most useful varieties.

To prove that the flesh of Dorkings is not insipid, I quote Mr. Hewitt's remarks in "The Poultry Book." He says, "There is not a doubt that coloured Dorkings are decidedly the most useful of all fowls for general table purposes, as *not only is the flesh of extremely good quality* (the italics are my own), but it is produced in far greater abundance than in most varieties. Another very important point in the consideration of Grey Dorkings is, that the greater proportion of the flesh will be found on those particular parts most generally esteemed—viz., the breast, wings, and merrythoughts; hence they carve to especial advantage."

I acknowledge that Dorkings are not the very best of layers; but from an experience of some years, I must say I have not found them such very bad layers as "NEWMARKET" endeavours to make out. Early-hatched Dorking pullets lay very fairly in the winter, and, moreover, I generally have two or three Dorking hens laying at Christmas. I have three Dorking hens, three years old, which have moulted, now laying, one of which commenced to lay before her tail feathers had grown again. My Dorkings are the dark variety.

I have kept several different breeds of fowls, but have found none equal to Dorkings on the whole. I have not kept Brahmas very long; but the little experience I have had of them has placed them high in my estimation.

It is utterly absurd to class Hamburgs amongst non-ornamental varieties. I cannot conceive a prettier and more beautiful sight than really good Hamburgs present—i.e., as far as the Spangled and Pencilled birds are concerned. I do not keep Hamburgs, though I admire them greatly, and I know that they are great pets with the ladies.

I have not one word to say against Game fowls; on the contrary, they are great favourites with me; but I do enter my protest against a Game-breeder "running down" almost every variety except Game.—G. R. B.

GAME FOWLS CLASSIFIED.

GAME fowls are the highest in blood, the noblest, the most beautiful, the most prolific, the hardiest, healthiest, and best table fowls of all poultry.

Number of sorts classed by the colours of the young chickens:

Light Chickens.	Striped Chickens.	Dark Chickens.
1. Whites.	5. Black-breasted Reds.	10. Brown Reds.
2. Piles.	6. Red-breasted Ginger Reds.	11. Dark Greys.
3. Blue Duns.	7. Duckwings.	12. Dark Birchens.
4. Red Duns.	8. Yellow Birchens.	13. Blacks.
	9. Mealy Greys.	

Uncommon-coloured sorts not much known—1, Red Furnaces; 2, Cuckoos; 3, Spangles; 4, Polecats.

The original wild coloured sorts are these three—1, Black-breasted Reds, Partridge hens, fawn breasts; 2, Brown-breasted Reds, dark-brown (not black) hens; 3, Red-breasted Ginger Reds, yellow legs, light Partridge hens.

All the other sorts and colours were originally bred from these three colours, those hatching the dark chickens from the Brown Reds or Dark Reds, and all the others from the Black-breasted Reds and the Ginger Reds.

White legs are probably the result of long domestication; all other colours of legs are found wild.

The most common and popular sorts at exhibitions—1, Black-breasted Reds, dark red eyes, willow legs, Partridge hens; 2, Brown Reds, dark eyes, dark legs, dark brown hens; 3, Duckwings, dark red eyes, willow legs, silver-grey hens; 4, Piles, bright red eyes, white legs, nails, and beaks; 5, Blacks, black eyes, black legs, entire black colour.

The Brown Reds (1), and Black-breasted Reds (2), are the cup birds, and the other three sorts have taken a few cups, and no other colours any cups at all. There are seventeen distinct varieties of Game fowls, and twenty-seven sub-varieties, or forty-four in all, out of which fourteen are of the Black-breasted Red colour alone, sorts with hen-tailed cocks included.

The best sorts to keep are these, on the whole:—

For high courage and spirit in fighting:—1, Dark Greys, black eyes and legs (hardest sort of all); 2, Brown Reds (cocks red, brown-breasted only); 3, Red Cheshire Piles (bright red eyes, white legs).

For beauty of colour and markings:—1, Black-breasted Reds, willow legs, Partridge hens; 2, Silver Duckwing Greys, willow legs, silver-grey hens.

For good laying qualities (white legs best for table):—1, Black-breasted Reds, willow legs, Partridge hens; 2, Red Cheshire Piles, bright red eyes, white legs.

Yellow and blue-legged hens lay the best as a rule; Brown Reds are first for shape and carriage; Black-breasted Reds for superiority of colour.

The "colour of the eyes" is the best criterion of the difference in the blood in all Game fowls, as "black eyes" show the dark blood (white eggs); "red eyes," the red blood (reddest birds), pinkish eggs; "yellow or daw eyes," the yellow strains (yellowish eggs), these being in general inferior birds to the others. "Bay eyes" and "light brown eyes" result from crossing.

Game fowls are the best layers of all poultry with these few exceptions, which do not lay quite so well:—1, Dark Greys and Dark Birchens, worst layers; 2, Brown Reds, next worst layers in general; 3, Duckwings, when with willow or white legs; 4, Mealy Greys, not a common colour at all. Dark Greys are, however, the only really bad layers of them. Grey-coloured, and dark-combed, and dark-faced hens are the worst layers in all poultry.

In the Black-breasted Reds the clear-hackled cocks breed the wheaten-coloured or cinnamon hens, and the striped-hackled cocks breed the striped-hackled hens. The true Ginger hens (not Cinnamons), breed the Red-breasted Ginger cocks. The strains with red eyes and black eyes are the best birds.

The only sorts now much used for cock-fighting are:—1, Brown-breasted Reds (most common with cock-fighters); 2, Grey-breasted Dark Greys (hardest and strongest of all); 3, Black-breasted Reds, white legs, dark red eyes, with the light wheaten-coloured or Cinnamon Buff hens. These are the three hardest and strongest sorts of all.

The three quickest-fighting sorts are:—1, Red Cheshire Piles, bright red eyes, white legs; 2, Red-breasted Ginger Reds, bright red eyes, yellow legs; 3, Whites, bright red eyes, white legs (like the Piles).

Other favourite sorts of the older cock-fighters are:—1, Red-breasted Ginger Reds, dark red eyes, white legs; 2, Black-breasted Reds (dark), carp-brown legs, and dark red eyes, fawn-breasted dark brown hens; 3, Red Duns, dark red eyes, white legs (north country).

Willow-legged Duckwings stand the next in courage. Willow-legged Black-breasted Reds are too soft a bird; and Blacks both too slow and too soft to be good. Blue Duns fight worst of all, being soft and weak; all yellow or daw-eyed birds are, with a few exceptions, wanting in spirit and courage. Dark Greys and Brown Reds are the best birds of all.—NEWMARKET.

SILVER CUPS AT THE HASTINGS POULTRY SHOW.

I SENT a pen of Partridge Cochins to the Hastings and St. Leonards Poultry Show last August, and obtained the cup for the best pen of Cochins exhibited there. The cup, as stated in the prize list which I enclose, was to be valued at £5; and Mr. Savery, the Secretary, has sent me a cup worth not much over £3. Can anything be done about it? for when a cup is promised it ought to be of the value stated in the prize list. I wrote to Mr. Savery about it, and enclose the answer I received from him. I think the public ought to know about it. I paid the carriage of my birds as far as Reading, and could not pay further, and the Secretary charged me 6s. for the carriage of one pen of birds from Reading to Hastings. Mr. Rowe, of Bristol, obtained the silver cup for Spanish chickens, valued at £5, and his cup was not worth more than £3.—JOHN ROEBARD ROEBARD, Aldwick Court, Wrington, near Bristol.

WOODBIDGE POULTRY SHOW.

Will any or all of the numerous victims kindly furnish me with their names, stating whether they have received a printed circular bearing the name of Jeremiah Wright, which circular

I believe to be nothing more than a ruse? I think if you would have the goodness to publish a list of the wrongs that have taken place in connection with this Committee, it might have a salutary effect in warning honest men against any further dealings with them.—T. C. HOSE, *Wymondley Parsonage, Stevenage.*

RAILWAY MISDOINGS.

EVERY poultry-lover will, I am certain, echo your postscript to Mr. C Pigeon's letter in reference to his *La Flèche* fowls and the Midland Railway. When he sent me the correspondence, I strongly urged him to write thus:—"I have fixed the price of the injured fowls thus low, that this very unsatisfactory business may be forgotten; but the birds were worth considerably more to me, and indeed to any poultry fancier, and if I take the matter into court it will be at a greatly increased value. The value of your rolling stock, as of anything else, is not the value I or any other person chooses to put on it, but the amount that it would fetch in the market. I am prepared to prove that my birds are worth more than the amount I ask, and if I must go into court it will be for their full value."

I think, as an American would say, "this would fetch him." Failing it, I would have fixed the value of the fowls at something over £5, so as to make it a jury case, and there would be no question of the result, for juries, like poultry fanciers, groan under the incubus of railway mismanagement and extortion. It is such a gross case of neglect, and the cool manner in which the authorities reply is so provoking, that I do hope my friend Mr. E. Pigeon will still reconsider his determination, and bring them to book; they will then find they have trapped a *Pigeon* to their cost.—Y. B. A. Z.

BRAHMA POOTRA WITH POWERLESS LEGS.

I HAVE a Dark Brahma cockerel that appears to have lost the use of his legs, not having been able to stand for the last fortnight. Previous to this he seemed quite well. I suppose it is rheumatism from the constant wet we have had this year. I have purged him with castor oil three or four times, and fed on bread soaked in ale, but he is no better. Can you recommend anything?

Is there any poultry fancier at Truro or Plymouth?—A. G. CREWE.

[We consulted one of our best skilled keepers of Brahma Pootras on this case, and he has replied as follows:—"I do not think the cause of the loss of power can be the constant wet, no birds stand the evils of this life better. If he have utterly lost the use of his legs—in other words, is paralysed, I should strongly suspect some foul play; a hard blow across the back, giving concussion to the spinal cord would cause it, and in this case I think the bird had better be killed. I gather from the letter that it has been a sudden affection, and, therefore, I am more disposed to think that may be the cause. Have the birds a high roosting place? If so, the concussion might be done in the coming down. Eight inches from the ground is enough for all large fowls. If, on the contrary, it has, though coming on suddenly, at last been noticed that the bird crouched and squatted to eat, and did not go many steps without sitting down, there is deficiency of leg power, probably both muscular and bone. For the latter some phosphate of lime mixed with his meal, and two or three grains of quinine and iron (citrate), twice a-day might do good. Unless he is really a promising bird, and fat-producing food can be stopped, and unless he rapidly recovers I should kill him, and for this reason, the crouching position will give a bad carriage and make him gawky-looking.

"Second, Mr. Nicholas Barter, Secretary to Poultry Show, lives at Plymouth."

The Rev. W. W. Wingfield, Gulval, near Penzance, could give you information on the subject.]

LIGHT BRAHMAS AT BIRMINGHAM.

FINDING that sweepstakes are seldom or never popular, I am trying to get up silver cups, value £5 each, in lieu of first prizes in classes 28 and 24. This will give us six prizes to compete for. The following have already subscribed £1 each: Hon. Mrs. Arbuthnot, Mr. Pares, Mr. Pigeon, Mr. Stevens,

Mr. A. O. Worthington. I shall be glad to receive the names and subscriptions of five more.—ALBERT O. WORTHINGTON, *Newton Park, Burton-on-Trent.*

THE CHELMSFORD POULTRY SHOW.

It is impossible for us to speak more highly than it deserves of the management of the Chelmsford Poultry Exhibition, as every duty of the Committee was carried out with strict exactitude. The Corn Exchange at Chelmsford is eminently suited for the purpose of a show, the light being as good as could be desired; it is very lofty, and gay banners were not wanting to complete the decorations. Another circumstance, highly favourable to the success of the Show, was that the weather was sunny and summerlike.

The Grey *Dorkings* were capital, and although Dr. Campbell managed to secure all the premiums in a large class, still this was not done without close competition. The Silver-Grey and the White *Dorkings* also are worthy of especial mention. In fact, one favourable feature of the Chelmsford Show throughout was that the most useful classes of poultry were the best represented. The Game prize birds were exceedingly good; but the bulk of the chickens entered in these classes were not sufficiently matured for public exhibition. The *Cochins* can only be spoken of as unusually bad, with the exception of the three first-prize pens, so much so, that it will be seen several of the prizes were withheld altogether. This was a feature quite contrary to general expectation. It is long since we met with so excellent a class of *Spanish* chickens—they were sufficiently good to add great credit to any show; and as to *Brahmas*, both Dark and Light-feathered ones, the entry was such as we have not seen for a long time, being very numerous, and yet there was scarcely a bad pen. The singularly limited amount of entries in the *Hamburgh* classes, of every variety, although good prizes were offered in all four classes, was one of those results which it is difficult to explain. The *Hamburghs* entered, with one exception, were decidedly inferior. A very moderate *Hamburgh*-breeder might easily have secured the whole of these premiums. But few entries were made in the *Polish* classes; but the birds were of good quality. For the French fowls now so popular—viz., *La Flèche*, *Criée Cœur*, and *Houdans*, separate classes were appointed. The collection was not amiss; but we regreted to notice that several decidedly "ropy" specimens were exhibited among them. By referring to the appended prize list, our readers will find that the *Any other distinct variety* class was well filled. The best of the *Bantams* were decidedly *Sebrights*; but the Game Bantams were considerably below par.

The *Geese*, *Aylesbury Ducks*, and *Turkeys* were worthy of all praise, although several pens of *Turkeys* were thrown out from non-compliance with the printed regulations requiring them to be pouls of the present year.

The Selling class was quite a success, the first prize falling to as good a pen of the old-fashioned Red-speckled *Dorkings* as we have seen for many years past, whilst the second prize Buff *Cochins* would have proved quite a relief to the general *Cochin* classes.

Mr. S. Mathews's Duckwing silver cup Game cock was a remarkably good one, and shown in faultless trim. The other classes for single cocks contained many good specimens.

The collection of *Pigeons* was exceedingly fine, and from the easy access to London, most of the classes were well filled.

In the Extra class a curiosity appeared, entered as "A little girl's Playthings," a kind of "happy family," but an oddity in the lists of a poultry show. It consisted of a handsome cage, in which were confined a pair of Angora kittens, ornamented with red and blue neckties, a couple of Canaries, a pair of Doves, a Himalayan Rabbit, and an old Guinea Pig, with its litter of young ones, all being the best of friends. It proved a popular feature of the Show to ladies and the younger visitors.

Prizes were offered for dead chickens, shown in pairs and trussed for table. When we tell our readers the largest weighed 15 lbs. 10 ozs. the pair, and the least 9 lbs. 8 ozs., they will see there was not any want of competition. One pair, however, were passed by, being absolute deformities.

DORKINGS (Coloured).—First, Second, and Third, Dr. Campbell, Brentwood. Highly Commended, W. H. Walker, Shenfield, Brentwood. Commended, J. Frost, Parham, Wickham Market.

DORKINGS (Silver-Grey).—First and Second, Dr. Campbell. Third, F. Parlett, Chelmsford.

DORKINGS (White).—First and Second, H. Lingwood, Barking, Nestham Market. Commended, I. Perry, Shrublands, Chelmsford.

GAME (Black-breasted and other Reds).—First and Second, S. Mathews, Stowmarket, Suffolk. Third, J. Jeken, Eltham, Kent.

GAME (Duckwing and other Greys and Blues).—First and Second, W. W. Pyne, South Lancing, Sussex. Third, J. J. Hasell, Great Bromby, near Manningtree.

GAME (White and Pile).—First, Rev. F. Watson, Messing, Kelvedon. Second and Third, H. Banks, Worcester.

COCHIN-CHINAS (Buff).—First, H. Lingwood. Second, W. Tippler, Brentwell. Third, Rev. O. H. D'Aeth, Knowlton Court, Wingham.

COCHIN-CHINAS (Brown or Partridge).—First, J. R. Rodbard, Aldwick Court, Wington. Second, withheld. Third, H. Lingwood, Newbourn, Woodbridge.

COCHIN-CHINAS (White).—First, Rev. M. R. Barnard, Margate. Second, withheld.

SPANISH.—First and Second, J. R. Rodbard. Third, W. H. Walker.

Highly Commended, Mrs. Pattison, Maldon; W. H. Walker; T. Wood, Black Notley, Braintree.

BRAMA POOTRAS (Dark).—First, J. H. Pickles, Bridgeroyd, near Todmorden. Second, J. Hinton, Hinton, near Bath. Third, E. Sheerman, Chelmsford. Commended, J. Kennis, Springfield; J. H. Pickles.

BRAMA POOTRAS (Light).—First, J. Pares, Guildford. Second and Third, H. Dowsett, Pleshey, Chelmsford.

HAMBURGS (Gold-pencilled).—First, C. Havers, Ingatstone. Second, T. D. Ridley, Chelmsford.

HAMBURGS (Silver-pencilled).—First and Second, T. F. Barrett, Oswestry.

HAMBURGS (Gold-spangled).—Prize, J. F. Leveridge, Newark, Notts.

HAMBURGS (Silver-spangled).—First and Second, Rev. F. Tearle, Newmarket.

POLISH (Black, with White Crests).—First, T. P. Edwards, Lyndhurst, Hants. Second, F. Broemel, Lewisham.

POLISH (Gold or Silver-laced or Spangled).—First, G. Boothby, Louth, Lincolnshire. Second, J. Hinton.

CRÈVE CŒUR.—Prize, National Poultry Company, Bromley, Kent. Commended, W. Tippler.

LA FLECHE.—Prize, Col. S. Wortley, Grove-end Road, London.

HOUDAN.—Prize, National Poultry Company. Commended, Col. S. Wortley.

ANY OTHER DISTINCT VARIETY.—First, W. Jagger, Dunmow (Hikies). Second, F. Broemel (White-crested Slate-coloured Polish). Third, W. Grave, Springfield, Chelmsford (Emus).

GAME BANTAMS (Black-breasted and other Reds).—First, J. K. Fowler, Aylesbury. Second and Third, G. Manning, Springfield.

GAME BANTAMS (Any other colour).—First, S. Dupe, Evercreesh, Bath (Pies). Second, Mrs. Saltmarsh, Chelmsford (Duckwings). Third, W. W. Pyne (Duckwings).

BANTAMS (Sablebrights, Gold or Silver-laced).—First, T. C. Harrison, Hull. Second, G. Boothby.

BANTAMS (Any other variety).—First, E. Cambridge, Bristol (Black). Second, Rev. F. Tearle (White).

DUCKS (Rouen).—First, F. Parlett. Second, J. F. Bott, Hatfield, Chelmsford. Third, J. K. Fowler. Commended, J. K. Fowler.

DUCKS (Aylesbury).—First, J. K. Fowler. Second, Mrs. Pattison. Third, E. Turvill, Roxwell. Highly Commended, Rev. M. R. Barnard; E. Turvill. Commended, Rev. C. H. Crosse, Cambridge.

GESE.—First, H. D. Postans, Shelley, Stoke-by-Nayland (Tonhouse). Second, Mrs. Brackenbury, Downham (White). Third, J. K. Fowler. Highly Commended, J. K. Fowler. Commended, Mrs. J. Upson, Rivenhall, Essex (China, half-bred China, and Common).

TURKEYS.—First, F. Carter, Billericay. Second, Mrs. Bott, Hatfield, Chelmsford. Third, A. Durrant, Chelmsford (Cambridge). Highly Commended, Mrs. Mayhew, Chelmsford. Commended, Mrs. Grimwood (Cambridge); J. F. Bott.

SELLING CLASS.—First, Mrs. Brackenbury (Coloured Dorkings). Second, A. Barker, Roxwell (Buff Cochins). Third, Dr. Campbell (Dorkings). Commended, Dr. Campbell; J. Hinton (Silver Polands); G. Manning (Black Red Bantams); E. Turvill (Crève Cœur).

EXTRA CLASS.—First, Rev. C. J. H. D'Aeth, Wickham, Wingham (Buenos Ayrean Ducks). Second and Third, Mrs. Mayhew (Call Duck and White Drake, Peacock and Hen). Highly Commended, "A Little Girl's Playthings."

SINGLE COCKS.

GAME (Any colour).—Cup and Second, S. Matthew. Highly Commended, Rev. F. Watson (Brown Red).

DORKING (Any colour).—First and Second, Dr. Campbell.

COCHIN-CHINA.—First, J. R. Rodbard (Partridge). Second, G. Manning (Buff).

BRAMA POOTRA.—First, E. Sheerman. Second, J. K. Fowler. Commended, E. Pigeon, Lympstone, near Exeter.

HAMBURGH.—First, Rev. F. Tearle (Silver-spangled). Second, C. Havers (Gold-pencilled).

GAME BANTAM.—First, J. Parlett, Huntingdon. Second, G. Manning (Duckwing). Commended, Mrs. Sheerman, Chelmsford (Black Red); D. Causer, Erdington, near Birmingham (Duckwing).

PIGEONS.

CARRIERS (Any colour).—First, J. Ford, London, E.C. Second, F. Else, Bayswater, London. Highly Commended, C. H. Brown, Lower Edmonton.

POWTERS (Any colour).—First, J. Taylor, Newark. Second, F. W. Disney, Tye Hyde, Ingatstone (White).

TUMBLERS (Any colour).—First, J. Ford (Almond). Second, J. J. A. Stockall, Broad Green, near Liverpool (Red).

JACOBINS (Any colour).—First, F. Else. Second, J. Percival, Peckham Bye.

FANTAILS (Any colour).—First, J. Taylor. Second, National Poultry Company. Very Highly Commended, W. Cottiss, Wingham (Laced Fantails). Highly Commended, F. Else.

BARBS (Any colour).—First, M. Hedley. Second, F. Else.

ARCHANGELS (Any colour).—First, D. Causer. Second, J. Percival.

TRUMPETERS (Any colour).—First, E. Pigeon. Second, National Poultry Company.

OWLS (Any colour).—First, J. Waitt, Sparkbrook, Birmingham (White). Second, M. Hedley, Red Hill, Surrey. Highly Commended, Rev. F. Watson (Blue); J. Percival; F. Else.

ANY OTHER VARIETY.—First, D. Causer (French Tambour). Second, J. J. A. Stockall (Siberian Ice). Highly Commended, E. Pigeon (Dragons); J. Percival (Isabels); J. Ford (Black Magpies). Commended, National Poultry Company (Runts).

PRIZES STRICTLY CONFINED TO RESIDENTS IN THE COUNTY.

DORKINGS (Any colour).—Cup and Second, Dr. Campbell. Third, W. H. Walker. Commended, F. Parlett.

ANY OTHER LARGE DISTINCT VARIETY.—First and Third, E. Sheerman (Dark Brahmas). Second, H. Dowsett (Light Brahmas).

ANY VARIETY IN WHICH BEAUTY OF PLUMAGE IS THE CHIEF POINT OF MERIT.—First, T. D. Ridley (Gold-pencilled Hamburg). Second, Mrs. Sheerman (Brahmas).

PEN OF CROSS-BRED FOWLS.—First, Mrs. Sheerman. Second, G. Dalby, Waltham. Third, W. Chitt, Ingatstone.

PAIR OF DEAD CHICKENS, TRUSSED FOR TABLE.—First, F. Parlett (Dorking). Second, W. H. Walker (Dorking). Highly Commended, Mrs. Brackenbury (Dorking); G. Simpson, Chelmsford (Dorking).

Edward Hewitt, Esq., of Sparkbrook, Birmingham, and W. B. Tegetmeier, Esq., of Muswell Hill, London, were the Judges.

ABERGAVERN AGRICULTURAL ASSOCIATION POULTRY SHOW.

THIS took place on Thursday the 11th inst. There were some very beautiful birds. The pens were less numerous than in former years, but in the main the quality was unexceptionable. The *Hamburghs* were very superior; and the same remark will apply to both *Aylesbury* and *Rouen Ducks*. The Hon. Colonel Morgan's *Turkeys* were especially noteworthy and Mr. R. H. Nicholas, and Mr. Skinner were even more than usually successful.

SPANISH.—First, R. H. Nicholas, Malpas, near Newport. Second, F. Morgan, Angel Hotel.

DORKING (Coloured).—First, Hon. F. C. Morgan, Ruperra Castle. Second, — Skinner, Maidee.

HAMBURGH (Golden or Silver-spangled).—First — Skinner. Second, R. H. Nicholas.

HAMBURGH (Golden or Silver-pencilled).—First, J. Williams, Goytre. Second, R. H. Nicholas.

POLAND (Any variety).—Prize, — Skinner.

GAME.—First and Second, G. Pritchard, Llanvihangel.

ANY OTHER VARIETY.—First, — Skinner. Second, R. H. Nicholas.

BANTAMS.—Prize, — Skinner.

TURKEYS.—First, Hon. F. C. Morgan. Second, Mrs. G. Holtford, Buckland.

GESE.—First, R. Rees. Second, J. Williams.

DUCKS (Aylesbury).—First and Second, — Skinner.

DUCKS (Rouen).—First, J. Williams. Second, J. Pye, Dobson's Farm.

The Judge was Mr. J. Davies, Newport.

ARTIFICIAL HATCHING.

SOME time ago I wrote to you asking those who had used the incubator to report through your Journal the success or otherwise they had had with it in hatching and rearing chickens. No one has ventured to reply, but Mr. Brindley has kindly promised to lend me one of his incubators on the condition that I report fully the results through your Journal, and early in the year I hope to be able to commence, when, if you think them worth inserting, the results shall be duly sent to you.

Since then I have seen several second-hand incubators advertised. Does this, in the absence of any positive information, speak of non-success?

We had a great deal from the promoter of the National Poultry Company about artificial hatching and rearing. Is there no one who will report to us the results obtained? In a leading article you say, "The difficulty of obtaining broody hens has hitherto been almost insurmountable; that is now overcome by incubators and artificial mothers, which succeeded admirably." It may be so, but is there no one who can supply facts to prove this? I again appeal to those who have used incubators to come boldly forward and give us the results, so that many of us who live in the country far away from the National Poultry Company may be enabled to form a pretty correct view of their utility, so as to enable us to use them in the coming breeding season. How different the above quotation is from your Journal of the 23rd February, 1864, which is as follows:—"It [the incubator] was given up by every one who tried it, being found to be both troublesome and expensive. It hatched chickens with perfect success, but no care ever succeeded in rearing them."—A SPANISH BREEDER.

[We shall be obliged by information on this very essential point.—Eds.]

DIFFICULTIES IN ADDING A LIGURIAN QUEEN.

[A SCOTTISH correspondent thus describes the difficulty he experienced in adding an Italian queen to a common stock of bees. It will be perceived that he omitted previously to remove the original queen, and by this omission rendered his task exceptionally arduous.]

On Monday, the 15th inst., I met the railway carrier, who told me he had "live bees" for me. I carefully unscrewed the little box, and on examination found the queen safe, and apparently uninjured. I immediately set to work and drove all the bees and queen of a straw hive. The day being chilly and the temperature low, I found they would not "drive" in the open air, so I took them to the kitchen, and, placing the straw

skeps near the fire, I drove them all out by long-continued drumming and blowing. I then searched for the queen, and having found her, took her away. The bees were so listless that they manifested no signs of the queen's removal. I tied a cloth round the bottom of the hive, and brought them close to the fire, so that they might become sensible of the loss and make a commotion; but I could not succeed in accomplishing this, although during the summer bees confined in a skep without a queen get into a state of fearful commotion: I therefore resolved to risk the queen amongst them. The bees being all spread round the sides of the skep and over the top, were so listless that one would have supposed that no injury would be done to a queen introduced to them; but when I put the queen among a number of bees on the side of the hive, no sooner did they become aware of her presence than they made the most ferocious attack upon her, stinging her, apparently, to death. So violent were they in the attack, that I had to sever the attacking bees in two before I could rescue the queen. She appeared to have suffered much.

I now saw it was useless to try any more, and accordingly returned her to the little box; but she was there most unmercifully attacked by her own bees. In inspecting the box a few minutes after I had put her in, I found her on the bottom violently attacked, and in danger of being stung to death. I have often witnessed such instances before. I immediately took her out, and resolved once more to risk her with the driven bees. I saw, if left alone, she would in all probability have died. I put her in a small cluster. The bees were not so ferocious as at first. I then inverted the skep, placing over it the skep containing the comb from which the bees had been driven. A good many went up into the comb, and I was glad to observe that they now began to manifest signs of the loss of the queen. Still, the mass of bees would not leave the lower hive. They all clung round the upper edges, and there they remained all day, though close to the fire. I drummed them occasionally, but they would not leave. I was never so exhausted with any operation. I went down to the kitchen about 10 p.m., and noticed that nearly one-half of the bees had gone up. On narrowly examining the lowest part of the cluster of bees attached to the lower skep I saw the queen among the bees, and apparently, with the exception of the wings, not much injured. I by means of a twig gently removed the bees, and in the course of some little time was enabled to induce them all to move up. The queen accompanied the bees into the upper hive. Whether she has received serious injury remains to be seen. Her gait would lead me to suppose she has not.

To add to the labour of the above operation, one or two of the combs of the "drummed skep" had fallen down. You know what difficulty there is in getting these reinserted in a common straw skep. I was kept in great suspense during the whole period of a troublesome operation. Using a cage at this season of the year I fear would not have succeeded. I was afraid the bees would neglect the queen and allow her to perish.—J.

INVADING-WASPS—LATE FEEDING.

Could you give me any advice how to prevent wasps attacking and robbing a hive? I have totally lost my finest stock, weighing 36 lbs., from this cause. Observing that the wasps were disturbing the bees, I mortared all round the hives, leaving only a hole big enough for one bee to pass, which I had hoped would have enabled them to prevent the entrance of the wasps. The hive in question is a straw hive in a wooden box. A few days since I found the bees in a most disturbed state, hanging in a thick cluster outside the box. Next day I found them the same, except that numbers were lying dead on the ground. I then proceeded to drive out the remaining bees, and found that there was not a particle of honey left in the comb, that two or three weeks before had weighed 36 lbs. I dressed a fresh pot, but the bees have not taken to it, and have all disappeared. I fear my remaining hives will be treated in the same manner, as I frequently see a wasp making its way in. Would it be desirable to feed the bees at present? owing to the wet September they have not done much work.—E. B. B.

[The queen had probably died, and the stock fallen into a dwindling condition before the final onslaught was made. Many if not most of the bees which you drove out and which ultimately disappeared, were, doubtless, marauders from other hives. If your remaining colonies are populous and possessed

of fertile queens, you may by diminishing their entrances enable them to set wasps at defiance. Autumnal feeding should only be resorted to if the stocks are too light to face the coming winter. It should at any rate be now no longer delayed, and should be concluded before the end of this month.]

TAMING BEES.—A writer in a recent number of the "Scottish Gardener" says—"To tame vicious bees, we have only to accustom them to the form of human beings. A scare-crow, or what my Scotch friends call 'a potato bogie,' placed in front of the hives of stinging bees, is a great help. It can be shifted now and then, and, to provoke a general attack, place a loose waving rag or handkerchief in the hand of the bogie. I have been told that vicious, kicking horses have been completely cured by hanging bags of hay behind them in their stalls. They kicked and plunged at the bags till their strength was exhausted, when their vice and folly left them; so that they quietly tolerated the bags to dangle by their sides, and groomed to do as they liked. In like manner, the bees attack the waving, provoking handkerchief, and sting at it till their vice leaves them. That which scares crows tends to domesticate bees. If kept in a garden where men, women, and children are often seen, and where they are not disturbed, bees are as tame and peaceable as cocks and hens."

OUR LETTER BOX.

INCUBATORS (A Subscriber).—We cannot undertake to say which is "the best." That which we have seen and heard most of is Mr. Brindley's.

DORKINGS NOT ABLE TO WALK (J. T. S.).—The probable cause of the inability of the Dorking cock to walk is that he has swollen and tender feet, caused by perching too high, or perhaps by the flooring of the house in which he roosts. A bird of between 7 and 8 lbs. falls heavily on his feet when he flies from a perch. If, therefore, he roosts more than 1 foot from the ground that would cause the evil. The same inability to walk would explain the enlarged liver of the other. Another cause would be stone, brick, or wooden flooring to the house. Either of these causes first strains and swelling, and afterwards paralysis of the feet and legs. Have your perches 2 feet from the ground, and the flooring of loose gravel. It is not uncommon for a Spanish fowl to become pleg, and we have known them moult quite white, and afterwards return to their original colour.

BRABMA FOOTBALLS EARLY LAYERS (Thos. W. S.).—Your experience of Brahmas will be endorsed by most persons who keep them. They begin to lay at between five and six months old.

COCHIN-CHINA WITH SWOLLEN HEAD (Tom).—Your Partridge Cochin hen is suffering from cold. Give her some bread steeped in strong old ale. In all cases it is well to separate diseased from healthy birds. Do so in this instance, and she will soon recover. The best medicine is Bailey's pills.

GAME COCK WITH SWOLLEN HEAD (Y. E.).—The previous answer will serve in your case. As, however, Game are subject to roup, and Cocks are not, we advise you to add to other remedies camphor in his water, and pills of the size of a pea, two every other day.

BRABMA FOOTBALLS (F. T.).—The plan you propose to get up a stock of Brahmas is quite correct, and will produce you excellent birds if you make a good selection of your new stock. Houdans are among the hardiest fowls we know, doing well at all times and on all soils. They are excellent layers.

FARNWORTH SHOW (J. F. Newton).—The Secretary ought either to return the stamps or send you a catalogue. It would be difficult to prove that he received them.

ERROR.—In your report of the Farnworth Show, Mr. J. K. Fowler is put down as the winner of the second prize in "Ducks, any other variety." The second prize was awarded to a pen of Carolinas belonging to me.—J. R. JESSOP, Hull.

LONG SURROW SHOW.—Mrs. Bailey won the cup for the best pen of Dorkings. It was not a "local" prize.

MIDDLETON SHOW.—In your impression of the 9th inst., appeared a letter from a Mr. Holt, stating that though to my pen, No. 861, was awarded the first prize, yet it belonged to him, as his Black Hamburg cockerel had been put into it. I was not at Middleton, but I received my own cockerel back in my own basket, which does not look as if there had been a mistake. The Secretary refuses to pay me the premium. Will you inform me if I am not fully entitled to it?—CHARLES SKIDGICK, Ryddlesden, Kelghley.

[You were not entitled to the prize if Mr. Holt's cockerel was in the pen assigned to you. Whether it was so we cannot say. There was much mismanagement at the Show.]

PIGEONS DYING (Short-face, Limerick).—I am not acquainted with the disease you mention—"crops full of water." I should think it arose from something injurious in their food or water. Has the former been heated or kiln-dried? or does the latter contain any lead, or any other injurious substance in solution? I should be inclined to keep the sick birds short of water, and administer a bread pill containing one grain of calomel and the twelfth part of a grain of tartar emetic, to be followed by cod-liver oil as a restorative; the calomel may require repeating. Beans I think are better food than peas. Sopped bread and buckwheat may be given to the invalids.—B. P. BAKER.

SALT CAT (C. W. S., Greenock).—The simplest form of salt cat for Pigeons is a mixture of old mortar and salt. There is no law against having a looking-glass in a Pigeon-house, nor do we think one necessary. You can have the "Pigeon Book for the Many" from our office for twenty stamps.

GRAPE WINE (D. F.).—It is not "necessary" to add water to the expressed juice. Water is added only to increase the quantity. If you have juice only, much less sugar will be needed.

WEEKLY CALENDAR.

Day of Month	Day of Week	OCT. 30—NOV. 5, 1866.	Average Temperature near London.			Rain in last 30 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
30	TU	Nerines.	55.0	58.2	48.6	19	52 af 6	36 af 4	10 af 11	8 af 1	(	16 14	803
31	W	Andersonia sprengelioides.	58.8	58.1	45.9	20	54 6	34 4	morn.	42 1	23	16 16	804
1	TH	ALL SAINTS.	54.3	58.8	46.2	22	55 6	32 4	19 0	12 2	24	16 18	805
2	F	Chimonanthus fragrans.	54.8	57.7	45.0	17	57 6	30 4	27 1	37 2	25	16 19	806
3	S	Cassia corymbosa.	53.4	56.9	45.2	18	59 6	29 4	33 2	3 8	26	16 19	807
4	SUM	28 SUNDAY AFTER TRINITY.	51.9	56.7	44.8	20	1 7	27 4	41 8	28 8	27	16 18	808
5	M	Camellias.	58.2	57.8	45.5	20	3 7	25 4	44 4	51 8	28	16 17	809

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 53.7°; and its night temperature 37.6°. The greatest heat was 64°, on the 2nd, 1857; and the lowest cold 13°, on the 3rd, 1831. The greatest fall of rain was 0.98 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

IRELINE HERBSTII VERSUS COLEUS VERSCHAFFELTI.



HE changes of public opinion have been often pointed to as an indication of the fallibility of our nature; a fashion exists to-day, is given up to-morrow, and

again called into favour at a future time. Now, is it right to accuse the general public of this, or are those who constitute themselves the leaders of fashion to take the blame? In general they are ready enough to claim the credit where there is any, and why should they not have the censure? Now in gardening, plants and plants are alike subject to the caprice of the time, are for a time extolled beyond their merits, while afterwards, perhaps, they are equally underrated. The tendency of a large section of the community to run into extremes is the cause of this, but fortunately the freedom of discussion on such matters saves some valuable plants from being entirely written down. The friends who so strenuously advocated their claims in time of prosperity do not always allow them to be run down without saying a word in their favour; on the contrary, it is not unusual for a sharp controversy to be entered into, in which both sides may to a certain extent be right. Such a controversy has certainly been going on as to the merits of the two plants mentioned above, and at a time when victory has decided in favour of one which on former occasions was vanquished, let us look to the causes which brought about this result.

It is now several years since *Coleus Verschaffelti* was first recommended as a bedding plant, and in the hot summers of 1858 and 1859 it had a triumph, but the following season being cold, wet, and sunless, was so decidedly adverse to its progress, that it was at once condemned as a bedder. Since then, however, it has again risen in favour, and with many has asserted its claim to superiority over *Perilla nankinensis* and *Amaranthus melancholicus ruber*; but last year a new claimant to fame appeared in number in the shape of *Iresine Herbstii*. It had been in probation the year before, but not in sufficient quantity to contend on equal terms with its rival; 1865, however, saw it distributed far and wide. The *Coleus* also received its meed of patronage; and as the summer advanced, loud were the praises bestowed by its friends on its superiority over its rival, whose dingy look in some of the London parks after the warm dry weather of June and early part of July was by some thought to be fatal to its reputation. By-and-by, however, the *Iresine* showed more signs of life, and if September 1865 had been like the past September, it is not improbable that the *Iresine* would have been the favourite. As it was, it required all the energies of its friends to main-

tain it on a footing with the *Coleus*; and its easier propagation, and being more readily kept in winter in places deficient in stove accommodation, led to its appearing in greater force than ever in the summer of the present year, and with a result different from that of last year, yet confirming the opinion that some had entertained as to the comparative merits of the two plants; for early in the season the warm weather of June started the *Coleus* into growth, and improved its colour, while the same causes not only checked the progress of the *Iresine*, but absolutely bleached the existing foliage into the colour of the leaves of the Purple Beech when falling in autumn—a dirty withered-looking brown. Of course this was the time for its enemies to cry it down, but as it could not be replaced at that time, it had to stand, and the result has been that as showery weather set in during August the *Iresine* began to grow and improve in colour, while the *Coleus* remained stationary, and by the middle of September impartial judges would have given the palm of merit to the *Iresine*, and still more so at the present time, when its free growth good habit, and admirable colour are all that can be desired; while its rival has been going back, having ceased to grow several weeks ago, and its foliage has lost that freshness which gives it beauty. This, I may add, is the case on the 20th of October, neither of them having received any harm from frost, and both occupying positions of equal advantage.

Now these examples teach us plainly enough that the two plants require conditions so widely different that they can never compete together on equal terms; for it is like arguing the respective merits of a ridge Cucumber and a head of Celery, and the friends of each may point out instances enough where the one has succeeded and the other failed, forgetting that atmospheric conditions have anything to do with the matter; while it is patent to every one who takes the trouble to look that the one rejoices in hot sunshine, and the other in moisture, the Celery and *Iresine* both doing better with the cool, long, dewy nights of autumn than when exposed to the bright glare of a mid-summer's sun, which the Cucumber and *Coleus* delight in. Now, this points out conclusively enough what ought to be done. The *Iresine* should not be planted where early summer decoration is of consequence, unless the situation be shady or damp; and, on the other hand, omit planting the *Coleus* in a situation of the latter kind. It is useless for the friends of the *Iresine* to advise shade and moisture in all the cases where they recommend it, for no worse character can be given to any plant than to state that it requires some special treatment different from the generality of plants. How is it possible, or at least practicable, to treat this plant differently from those with which it is associated in a ribbon-border or mixed bed, and yet its most suitable place is with other plants? The simplest way of overcoming the difficulty would be to say, that in districts where an unusual amount of rain falls during the summer, let the *Iresine* be employed as much as you like; but where sun rather than rain prevails, and where the turf and pastures are burnt up, where Cabbages look blue, and Peas mildew early in the summer, then be sure that

the Iresine will fail, and the Coleus prosper, and in situations of this kind it is well only to plant the latter. On the contrary, where plenty of moisture exists, not in the ground only (for to that it can be given by hand), but in the atmosphere also, plant the Iresine, and you will be rewarded by its brighter colour and increased growth; and I am not sure but its foliage, like that of many exotic plants, looks most rich when wet. Certain it is, however, that in dull foggy weather it shines most conspicuously; and late in the autumn, when *Coleus Verschaffeltii* and *Perilla nankinensis* are both decaying, the leaves of this plant stand out firm, bright, and clear, and though, perhaps, less dark than earlier in the season, yet equally healthy, vigorous, and beautiful. Of course I allude to their appearance before frost, for, after that time, like *Geraniums* and other plants, the Iresine is no longer ornamental.

As there can be no doubt that the Iresine likes moisture, and perhaps shade, or at all events does not succeed well in dry sunny weather and hot situations, it may be inferred that many other plants have also their favourite positions as well as seasons, and referring to the latter, I would caution all inexperienced young gardeners being too much influenced by the success or failure of what they have seen during the present autumn. A September has passed which has been unparalleled for many years as regards dull sunless days, with fog and rain. This period, commencing in August, contrasted strongly with the same period last year, and of course the result is different. Plants are obtaining a reputation this season which was accorded to others last year, and the reverse. Now, it is not advisable to be too hastily led away by accidental circumstances creating success; the gay appearance of plants in a wet September is no recommendation when a dry hot June occurs, and they must do good service in this case before they can establish a character as suitable for all seasons.

I would ask, What can be done to make the Iresine an ornamental plant in a dry, hot situation at midsummer in a sunny season? If I may be permitted to answer the question I would say, Do not plant it with that view, but have Coleus or something else. If a similar question were asked me as to making a good display in the north of England and Scotland during August and afterwards, I might with confidence recommend the Iresine; for hot and dry as the September of last year was, I saw this plant in excellent condition in Dumfriesshire, while in the south of England and around London it was considered a failure. I have no doubt that in other places having a damp atmosphere this plant might also have been seen in perfection at the same time. Thus it is evident that we ought to have a plant growing under all conditions ere we give a decisive opinion upon it, and it also appears that each of the two plants forming the subject of this article has its peculiar advantages, and like the Cucumber and Celery, both do not alike thrive at the same time. Many other plants have their favourite seasons and situations, but although we can in most cases afford them the latter, the former are a matter of uncertainty. This very uncertainty, nevertheless, is perhaps the mainspring of enterprise, for in those countries where a certain result is sure to follow at a certain season, industry as well as enterprise is at an end. With us art has accomplished much, and has other triumphs before it. The vicissitudes of seasons, and more especially such a one as the present, affecting as it does other plants as well as the two in question, deserve a separate notice.—J. Ronson.

THE NEW ROSES.

ALTHOUGH there are several matters which press on me at this time, yet I have received so many communications with reference to the new Roses which are likely to reach us from the Continent this season, that I must put other matters on one side for the purpose of giving my judgment upon the Roses which the assiduity of our foreign friends has added to our already numerous catalogues, and, in so doing, wish distinctly that it may be understood how far that judgment goes. I pretend to no infallibility in the matter—I have no idea that if I see a Rose and think it to be good that it must necessarily be so; much less do I pretend to decide, from descriptions of flowers which I have not seen, which are to be our favourites. My opinion in former years of flowers that I had seen was not far wrong, and in naming the best Roses of last season from those which I had an opportunity of seeing, that opinion will be found, I believe, to be fully borne out by results. As I have already intimated, I had this year a better opportunity of seeing

the new Roses than in previous seasons, having visited most of the Lyons raisers, and seen, also, the large collection of M. Eugène Verdier at Vitry. I thus saw them on the trees, and was enabled to form a judgment, not only of the flowers, but of the style of growth of the plant—a matter which ought to be now of first importance, for, as we have now good varieties of most shades of colour, nothing with a weak and sickly constitution should be tolerated.

The list, as far as I have been able to ascertain, comprises five Tea Roses, two Bourbons, and fifty-three Hybrid Perpetuals. Of the Tea Roses, three come from the establishment of M. Guillot fils at Lyons, one from Oger, and one from Laffay. I give first of all the raiser's description, and then my own opinion.

1. *Bouton d'Or* (Guillot fils).—Plant vigorous, seedling of Tea Canari; flowers medium-sized, very full, and showing well, superb, shaded yellow, reverse of petals white.

2. *Madame Brémont*.—Plant vigorous; flower large, very full, holding itself well, varying from fine clear purplish red to deep shaded purple.

3. *Madame Margottin*.—Plant very vigorous; flower large, very full, globular, and holding itself well, beautiful dark citron yellow, centre rosy peach, the edge of petals white.

4. *Lucrèce* (Oger).—Plant delicate; flowers large, very full, a rosette in the centre, salmon rose passing into deep rose.

5. *Monsieur Furtado* (Laffay).—Plant vigorous; flowers medium-sized, very full, well formed, blooming in clusters, beautiful clear saffron yellow.

Of these I have seen the first three, the production of Guillot fils, and am inclined to think very favourably of *Bouton d'Or* and *Madame Margottin*. The former was an exceedingly rich yellow, and the latter had a beautiful combination of colours in the citron yellow of the outside petals and the peach of the centre. *Madame Brémont* I did not think so much of; while the delicate habit of *Lucrèce*, indicated, I suppose, by the description *peu vigoureux*, excludes it from our lists. M. Furtado bears a good name, and is the production of a raiser whose name, though of a former generation, ought to be dear to every lover of the Queen of flowers.

The Bourbon Roses are, as I have said, only two in number.

1. *Éillet Flamand* (Oger).—Plant vigorous; flowers medium size, full, flat, lively rose, marked and striped with fine white.

2. *Petite Amante* (Souper and Notting).—Plant very vigorous; flowers medium size, very full, fresh lively rose, back of petals carmine red.

Of these I know nothing. The description of the first reads well, for we are deficient in marbled flowers, and a really good one would be valuable, but many of these so-called *panachées* flowers are merely sports. I had Anna de Diesbach of a similar character, but it altered the constitution of the Rose considerably, nor were the flowers so well formed or full as in its normal state. If this be a seedling, of course these remarks would not apply, but I know nothing of it. The other does not read like anything very novel.

And now for the more popular and larger class of Hybrid Perpetuals. Of these, as I have said, there are fifty-two arranged thus as to raisers.

Eugène Verdier	10	Peters	2
Souper and Notting ..	1	Moreau	1
Fontaine père	4	Liabaud	3
Boyau	2	Gonod	3
Oger	1	Ducher	5
Damaizin	8	Guillot fils	1
Gautreau	1	Lacharme	1
Trouillard	3	Leach	1
Levéque et fils	1	C. Verdier	1
Vignerot	1	Guillot père	3
Touvais	3		

Those raisers whose flowers I have seen are Eugène Verdier, Gonod, Ducher, Lacharme, and Guillot fils, and I believe that amongst these growers were found some of the best Roses of last season. I was very sorry to have missed seeing Damaizin, as I think two of his Roses of last season are likely to prove valuable; the same may be said of Liabaud. Another time, if I am permitted to go to Lyons, I must take more time about it, so that if I do miss seeing the grower in one day I may hope to make up the deficiency in the following one.

DUCHER.

1. *Antoine Ducher*.—Plant very vigorous; flowers perfectly cupped, very large, full, and beautifully formed, lively red. This variety is a seedling from Madame Damage, but the flowers are still more beautiful and the colour deeper. Very good for forcing.

2. *Madame Palliat*.—Plant very vigorous; flowers medium-sized, globular, erect, and very well made, dark rose. A beautiful variety; very free-flowering in autumn.

3. *Mademoiselle Nonin*.—Plant vigorous; flowers medium-sized, produced singly, very full, form of the Cabbage Rose, rose slightly tinted with salmon, a new colour. Flowers freely in autumn.

4. *Monsieur Plaisançon*.—Plant very vigorous; flowers erect, very large, globular, full, and beautifully shaped, deep carmine. A very good variety for forcing, and blooming freely in autumn.

5. *Ville de Lyon*.—Plant very vigorous; flowers erect, very large, globular, full, and very well formed, deep rose. An excellent plant for forcing.

In the notes that I made at the time, I set down Antoine Ducher as a first-rate Rose; and, after I had seen all the others, I came to the conclusion that it was the most distinct and best Rose I had seen. The colour of *Mademoiselle Nonin* will recommend it, while *M. Plaisançon* is large and good. I did not see anything very remarkable about the other two, but there were not many blooms of them to be seen the day I was at Ducher's.

GONON.

6. *Gloire de Montplaisir*.—Plant very vigorous and free-flowering; flowers large, full, and well formed, very lively red. A very remarkable variety.

7. *Madame Anna Bagnet*.—Plant vigorous and free-flowering; flowers in corymbs, large, full, with round petals, imbricated, flesh colour, passing to marbled rose.

8. *Madame Rival*.—Plant very vigorous; flowers large, full, and well formed, tender satiny Rose, a variety of the first order. This variety presents the wood and foliage of *Auguste Mie*; the flowers are fuller, more free-flowering, and the colour more clear.

I am inclined to think that 7 and 8 will prove to be good Roses, if I recollect aright. *Madame Anna Bagnet* is of the same class as *Virginal*. *Madame Rival* is what it professes to be, an improved *Auguste Mie*, an old and very favourite flower; and if this maintain the character given to it, it is likely to be still more so.

GUILLOT FILS.

9. *Horace Vernet*.—Plant very vigorous; flowers very large, with large petals, full, and standing well up above the foliage, of a beautiful velvety purplish red shaded with dark crimson. A plant of magnificent effect.

This Rose may and will please a good many, but in my judgment it was somewhat too large and coarse. However, here is a point on which we differ. I see Mr. Rivers puts Jean Lambert and Prudence Besson into his first or select list; neither of them suits my taste, though the latter will be kept for its immense size, and because it may probably be the progenitor of a larger race of Roses than any we have.

LACHARME.

10. *Thorin*.—Plant vigorous; flowers large, full, well formed, beautiful pure lively rose.

I did not see this Rose when visiting Lacharme, but he told me that he had a very fine rose-coloured flower to send out this autumn; this is doubtless the plant.

This finishes the Lyons Roses that I had the opportunity of seeing. I shall, if all be well, next week take up M. Eugène Verdier's, and then the others, on which we must decide either from description or the previous reputation of the raisers.—D., Deal.

VIOLA CORNUTA.

In reply to Mr. Wills respecting the above (see page 297), I have never met with more than one variety of the true *Viola cornuta*. Like Mr. Wills, I have had letters and specimens from all parts: many of the latter proved identical with my own, and many were not allied to *V. cornuta* at all.

I may here state that the *Viola cornuta* used at this place is the same as that which I saw at Messrs. Backhouse's nursery at York in the spring, and which I should imagine to be the true one. I have, indeed, noticed a little difference in the shade of colour of some of the flowers raised from seed, but these I found in the course of the season could not be detected from the plants raised from cuttings. Again: soil and situation, as it is well known, slightly alter the colour, size, and profusion of blossoms. However, should Mr. Wills's variety not differ from that used here, I shall consider it most singular and fortunate

to think we both introduced it afresh to the public about the same time, and, should they prove different, we have hit upon two really valuable *Violas*; for if Mr. Wills's variety has been extolled in the north, that used here has been equally so in the midland counties. With respect to *Viola cornuta* being called Wills's variety, I am satisfied with Mr. W.'s explanation; but it certainly did appear strange to me to find his name associated with a *Viola* which has been known in this country nearly a hundred years, and which, I believe, is a native of the Pyrenees. However, I believe Mr. Wills is mistaken in supposing his variety differs from the one in the Liverpool Botanic Gardens, and that the variety grown there is worthless as compared with his. I believe Mr. Tyerman, the Curator, was at one time of the same opinion—that the variety there was not the same as the one grown at Huntroyde Park; but on his paying a visit to Mr. Wills at the latter place, bringing home with him some of Mr. Wills's specimens, and comparing them with his own, he could detect no difference in the two. He was much delighted with it at Huntroyde; it looked well, and seemed quite at home, being very gay.

Now, it is well known to those who have grown this *Viola* to perfection, that the different modes of propagation and seasons of planting out have much to do with the success of the plant, more particularly as regards profusion of bloom. In this no one is better skilled than Mr. Wills himself, for whom I have the greatest respect, we having both been so long contributors to the same gardening periodicals. I will send a box of flowers by post to Mr. Wills, and should they differ from his I shall feel a great pleasure in exchanging plants with him.—E. BENNETT, *Gardener to G. S. Foljambe, Esq., Osberton Hall, Worksop.*

OCTOBER CHERRIES.

It is so unusual to gather Cherries at this season from standards growing in the open air, that I am induced to send you a few fruit. The drenching rain of yesterday (Oct. 26th), has made them crack, and to a certain extent has destroyed their flavour. Till then they were bright and beautiful as Cherries in June. The origin of this kind of Cherry—the Belle Agathe—is a sort of mystery. Its type seems quite unknown, and its wide departure in its nature from all other kinds of Cherries is very remarkable.—T. R.

[The Cherries were very good, and but for the soaking rain would have been superior. As it was they were sweet and refreshing, and are certainly desirable to include among our autumn dessert fruits. They are a small crimson Bigarreau.—Esa.]

QUEEN ANNE'S POCKET MELON CULTURE.

I beg to thank your correspondent, at page 297, for having endorsed what I said in favour of this "little gem." I find he is well aware of its good and useful properties, and also justly observes it is easily cultivated. I have not grown it in a cold frame myself, but believe it would be in its glory if planted in loam on a pure bed of leaves.

To think of advancing anything more on the cultivation of Melons in pots, or otherwise, than has already appeared in THE JOURNAL OF HORTICULTURE, would be simply superfluous, especially after such excellent advice as Mr. Abbey gave a short time back; but to comply with "CUCUMIS MELO's" request, I may briefly state that the seed is sown in the usual way in a gentle heat—in a mild hotbed for instance, or any glass structure where a temperature of 65° or 70° can be commanded. When the plants are sufficiently large for potting, they are put into 60-sized pots; when well rooted in these a shift is given them into 32's, and finally into 24's. Perhaps "CUCUMIS MELO" may not call 24's "small pots." However, a tolerably stout piece of wire about 14 or 15 inches long is required, to which the stem should be tied, and on the top of the wire three pieces, each a foot long, should be fastened in a transverse direction, and bent a little downwards, and when this has been neatly done, the whole will be somewhat like the framework of a small parasol without the handle.

As soon as the plants have grown about 2 or 3 inches above the top of the wire, their points should be pinched out, after which a sufficient quantity of laterals will soon make their appearance; one of the latter only should be tied to each wire. Now comes the most important part of the affair, which is to secure six or eight fruit-blossoms open at one time. If one, two, or three only make their appearance they should be

pinched off, as the object in view is to have six nice little fruit all of one size. If one Melon took the lead, the rest, if any, would be very diminutive. All this is well known to "Cucumis Melo." A somewhat drier atmosphere is required to obtain a sufficient quantity of fruit-blossoms, which, when secured, should be impregnated. After the fruit is fairly set, a moister atmosphere is required until the fruit approaches the ripening state, when a drier or less humid one is the best. The usual routine of watering, keeping the plants clean, and ventilation is well known, and needs no comment here.

I am not able to say where seed can be purchased, and am sorry that "Cucumis Melo" has been put to so much inconvenience in procuring it; but to make amends for the annoyance, I will, on receiving his address, forward him a few seeds of the true sort, and in his hands I am quite sure they will thrive; and when the gardener's friend," as he calls this Melon, comes to maturity, I hope he will tell us all about it.

A Melon which I exhibited at the Royal Horticultural Society's meeting of October 6th, was grown in a pot, and weighed 4 lbs. 1 oz. It was a hybrid Casahuate, from seed purchased of Mr. Meredith, of Garston, near Liverpool.

A greater variety of Melons may be grown in a given space in pots than when planted out in beds, and, like orchard-house trees, the variety is charming.—JOHN PERKINS, *The Gardens, Thornham Hall, Eye.*

P.S.—How would a houseful of Melons in pots look—say a span-roofed house with a path down the centre, and two rows of plants on each side, some trained as standards, some as bushes, and some as pyramids? Queen Anne's Pocket Melon in such a house would look lovely in large pots, with fifty or sixty fruit on each plant.—J. P.

MUSHROOM TROUBLES.

Of all things grown out of the earth, is there any one, or any twenty, equal to Mushrooms in the subtle power they possess of disappointing one? We make great preparations, and incur considerable cost, for what, if the seasons turn out wrong, is all nothing; and it strikes me the seasons never are right. They are always either too hot or too cold, too wet or too dry. The Mushroom-bed is nine times out of ten a failure, and yet no one can be blamed. It is only in "Farmers' Magazines," and "Journals of Horticulture," that basketsful can be gathered without trouble or expense.

Mrs. Nicholls, across the green, makes up a fresh bed every year in the vain hope of growing them; but the materials cost her nothing, and the labour she has for the asking, in the shape of her son's gardener. This bed is made after her own design, and I must say, like most other Mushroom-beds which have come under my notice, is not a prolific yielder. Strange to say, the lady never loses heart or hope, but tries again.

Once she found about a score had been splendid Mushrooms. They should have been gathered a week, but she had been away at Redcar, and no one had thought of the bed. They were the whole season's crop.

Then there is Mrs. Teasdale, living at Hilltop House; she has a piece of waste land facing the north, in which this year she planted a few rows of early Potatoes. All along the ridges there came up of themselves thick, fat, fleshy Mushrooms; but she never would tell how she managed it. She only said it was all chance, they had never grown before, though she had tried hard to make them, and this year she dare not eat them for fear of the cholera.

And yet, in spite of all this cost, and care, and trouble, and uncertainty, we know that miles away from our great towns, in the pleasant pasture fields, they spring up of their own sweet will, such Mushrooms as we cannot grow. There is, however, a drawback—unfortunately they are not always the real eatable Mushrooms which we find growing; and even when they are, strange to say they somehow or other change as they pass into the cook's hands; they then become either horse Mushrooms or poison.

When a young girl, I was sent into the country to get quit of a barking cough, and playing on the banks of the river Ouse, a mile or two away from Selby, in Yorkshire—that dear river, about which poets have sung until they have made a memorial river to outlive even the real river—playing there I found some fine Mushrooms, and took them home with me to the lodgings, thinking what a great treat I would have, for I was very fond of them, and had been brought up to regard them as wholesome food.

"Oh! they are not fit to eat, Miss; they are horse Mushrooms, they'll make you ill; very like kill you; best throw them away at once for fear of harm."

"No, don't, Mrs. Wilson, I beg; they are good." I was too late, the poor things were on their way over a backyard, a five-feet stone wall, into the dusty high road, to be trodden under the hoofs of the first cart horse that came that way. No use to fret or stamp on the red brick floor as I did. Some little time afterwards I was sent into the kitchen for a jug of water. It was the dinner hour. A labouring man was hanging up his cap behind the door; the peg seemed unwilling to hold it, for it fell down twice. A thick neck-of-mutton chop was steaming hot upon the table, and some dainty Mushrooms in rich dark gravy sent out a perfume which filled me with a strange longing. I went away wondering why Mrs. Wilson's face should be so very red, when it was a cool morning. I do not wonder now.

This was not my only disappointment in the Mushroom way. I must confess to liking the "nasty things," as they are often called, very much, perhaps too much. I soon grew wise enough to know that cooks at lodging-houses never acknowledge anything to be Mushrooms. They cover all over with, "It would be such a dreadful affair if I were to poison you. Nobody would ever come to my house again."

A summer ago I was staying at Blackpool, in the warm month of August. There, every morning during the week, country women brought to the market hampers full of most lovely Mushrooms—Mushrooms to dream about, they were so thick and white, and had such a delicate soft pink lining. They were gathered in the fields miles away, so they said. So one day, tired of the great sea that was for ever beating up thousands of star fish and tiny crabs on the rough, uncomfortable shore, we started off to seek Mushrooms for ourselves. Leaving the pier and the town behind, we went far on the north shore, passed the new hotel then building, Uncle Tom's Cabin, and far out among the fields, those almost flowerless and treeless fields which stretch out to Fleetwood, catching now and then glimpses of the ocean—pictures to be remembered in the long dark winter nights—and picking here and there a Mushroom which had been missed by the early gatherers. Oh, what a day of warmth and beauty it was! and many an exclamation of joy escaped us, as we rested beneath the "blue unclouded," and watched the still bluer butterflies skim merrily past us.

Our little bags were full, when late in the evening we reached home, and thinking to be wiser than of old, we sat down before our large window that faced the sea to prepare our Mushrooms. Pepper and salt, and milk, and butter, and Mushrooms were properly mixed together in a basin, and the bell rung for our pretty waiting maid. I am afraid, as Mrs. Poyer would say, she thought more of her good looks than her work. Many rules and charges were given; the Mushrooms were to be cooked with all care, and brought up with our tea, for which we would wait, though we were very hungry, and very tired.

How the white waves did toss themselves up in the evening light; how untiringly they told and retold that old story we have each one to interpret for ourselves; how the crowds of Lancashire, and Staffordshire, and Yorkshire people, trod and retrod the pier! I never could make out, what profit, or pleasure, or health, or anything, they found in doing so—how lights sprang up all along the shore, and long strings of poor, tired donkeys, sought their way home; and how at last crowds, and sea, and lights, and music, and worry, and waiting were lost in that snatch of dreamless sleep, the very tired alone know the sweets of.

Tea came, but the Mushrooms? "Dear me, Madam, I am so sorry, but I could not help it, it was not my fault. Missus took the pan lid off to look in, and forgot to put it on again, and all the soot in the chimney fell in, you could not eat them."

I did not believe either about the soot or the sorry; both were imaginary in the highest degree. No more Mushrooms at Blackpool.

A month ago I was out to supper at Mrs. Nicholls's, there was a large dish of Mushrooms; they were not her own growing though, a present from some great gardener at Methley.

"I say, wife, I would not have cooked these things, I am not sure they are safe to eat. There is a long article in to-day's "Mercury." They seized all the Mushrooms in the market on Tuesday, as unfit for food. They say they are not as they should be this year, owing to the wet."

So Mr. Nicholls put back the Mushrooms he had been helped to, and his daughters shook their heads, and would not have any, though their dear Mamma ate her's with great relish, in

spite of the assurance she would be dead before morning, and I refused, though longing, for a long array of cooks and nurses, with their warning words, "horse Mushrooms, and poison," passed before my mental vision—not that Mrs. Nicholls came to any harm; she survived the night, ate up next day all that were left, laughed at her husband, and is living still.

Oh, for the days when we were children, and cooked our Mushrooms on the bar, without dish, or pan, or spoon, or plate, carrying them about with us in our pockets until our nursery fire was our own; thankful for pepper and salt, overjoyed if a little butter was added, for then our feast was complete! No thought of danger or poison ever troubled us then. All were Mushrooms that grew in those far-away yet ever green pasture fields.—MAUD.

LATE PEAS.

Has any one tried the *No Plus Ultra* as a late Pea? With me it has proved a valuable one for that purpose, having had gatherings from it since the 20th of September. To-day, October 22nd, I have gathered a large dish. The flavour is all that can be desired. Should the weather prove favourable, I shall be able to gather Peas for another fortnight, as I have the British Queen just now ready, and quite an ornament to the garden, being green and free from mildew, and as full of bloom as if in the month of June. The seeds were sown in the first week in July, and the plants are growing in a strong, heavy soil, but not rich. I gathered Peas last year until the second week in November.—THOS. RECORD, *Hawkhurst, Kent*.

SPRING BUDDING.

READ BEFORE THE PENNSYLVANIA HORTICULTURAL SOCIETY,
SEPTEMBER 4TH, 1886.

I DESIRE to call the attention of the Society to a method of spring budding, which I performed upon the large branches of some old Pear trees during the spring of this year—a method which has, I think, some advantage over those in common use.

It is often found that one has an old and vigorous-looking Pear or Apple, which has become covered with unproductive spurs, and is a good subject for renewal, by cutting back or by grafting. The usual plan is to remove many of the larger limbs, expecting new growths to spring out by the development of accidental buds, from which some are selected to form the future tree; the difficulty of, and the objection to this is, that the disposition to the development of buds is confined principally to the terminations of the limbs, in many cases leaving the lower parts bare. Where grafting is done, only the terminal part of the large limbs can be operated upon, so that a similar method of cutting back is necessary to get new wood on which to graft nearer the stem; this occasions the delay of one season.

I have pleasure in mentioning a plan which I believe will in either case accomplish the result aimed at with certainty, with regularity, and in a single season secure the foundation of a symmetrical tree. The process I have called spring budding; but, to prevent confusion of terms, will name the "bud" an insertion.

We will suppose a long and exhausted Pear limb, comparatively denuded of branches; such a one as we so commonly see. The first preparation will be to remove one-third of the length; and if it is desired to change the variety, two grafts will be placed in the cut end, then at several places along the course of both sides the dead outer bark should be scraped away. A triangular incision is now made at the points selected, extending down to the wood; it should be of considerable size, varying with the diameter of the limb, and be finished by removing the bark included in the incision. The object of the removal of the piece of bark is to enable the insertion to be introduced beneath the thick bark, and to check the flow of sap at the part for the benefit of the bud. In branches of 4 inches diameter the triangle should be 1½ inch at the base.

The preparation of the insertion is made by taking a scion cut from well-matured wood of the previous year's growth, which need not be removed more than a few days before wanted; it must have been kept cool and fresh, and the buds be plump, but unstarted. The knife should be entered at the side opposite the selected bud, about half an inch above, and so directed as to split the scion in the middle for the greater part, covering 1 inch or more below the bud, and on the same side with it;

after the removal of a very small part of the outer bark at each side of the insertion it will be ready for introduction.

A slit is now made from the base of the triangular cut downwards, to enable the bark to be slightly raised; the insertion is next pressed down so as to bring the bud exactly to the base of the triangle. Grafting-wax is now laid upon the incision last made, and all the cut parts completely covered by the wax; when a piece of wood the size of an ordinary label is laid over the last cut, and bound down tightly upon it by a wrapping of twine, securely tied, so as to counteract the disposition of the bark to curl away from the insertion, which tendency is universal. Indeed, so important is this tying, that success cannot be expected if it is omitted.

The advantages of the method above described are so manifest, that any attempt to mention them would be superfluous; each one accustomed to such processes will know when he can use these insertions with advantage.—LOUIS JACK, M.D.

NEW ORCHIDS IN CANTERBURY, NEW ZEALAND.

MR. BROOKES paid Mr. Sales a visit, and found me in a drain covered with mud from head to foot; in fact, I could not see properly, and did not recognise him at first, as I had my eyes spattered with mud. However, I came out, and he wanted some Orchids to take back to Stewart, so I took the opportunity of sending some living plants back by him to divide between yourself, Stewart, and Armstrong. I hope you received them. They are not such good ones as I would like to have sent, but it so happened, a day or two after he came here, I met him in Hokitika, and he had had his case over, and was off the next morning. It was a wet day, and very dark in the bush, so that I had some trouble in finding the little *Angraecum*-looking plant; it took me all the afternoon to do so, and gave me a proper drenching. I had to change all my clothes, and then carry the plants to town in the dark. They will give you a better idea than dried ones.

I made a mistake in calling the *Angraecum* a *Phalænopsis*; however, it resembles them both. As to your only making out five species, I have found so many terrestrial ones on the plains, and I consider that there are here six epiphytes, or true air-plants, all growing on trees, and the *Angraecum*-looking one only on the tops of high trees; the others are growing at various heights right down the trunks of the trees.

Two of the kinds are very much alike, they are the *Dendrobæ*-looking ones, only one is much shorter in the growths, and flowers much later. I consider its fragrance sweeter than that of the Lily of the Valley.

It is useless for me to attempt to describe them, as you will have the plants themselves; but I must tell you that the *Angraecum*, and a fine-leaved kind, something like the other two *Dendrobæ*-like Orchids, are now putting out their flower-stems. Then there is the fifth, a very long, slender-growing plant with the seed-pods very round, and the last is the most diminutive Orchid I ever saw. It is an Orchid in miniature, and very much resembles the *Cælogynes*. I will obtain flowers of them as soon as possible, and in the meantime shall be glad to hear your opinion of them.

We began to trench the ground about ten days ago; there is half an acre. The weather here has been splendid for the last two weeks; bright sunshine, and sharp white frosts, and no rain until last night it broke down once more, and I am afraid will now be very miserable.—JAMES MARSHALL.

[The preceding letter, dated July 29th, was written to a friend by the gardener of the Government Superintendent of Hokitika, the gold-field district of Canterbury.]

PARIS.

THE Bois de Boulogne is just now [second week in October] worth a visit. The heavy rains have kept the trees green this year, and the skill of the Paris horticulturists appears very conspicuous. Not only in the Bois, but all along the Champs Elysées, the beds and plots of earth which circle the fountains are supplied with plants, and shrubs, and large flowers, many of which are new to Paris. I do not know their names, but I am told that they are imported from various parts of the world, and are being acclimatised in the public gardens. You see here and there a cluster of broad leaves spring out of the ground in healthy greenness, and spreading their grand fans a

couple of yards high. The gardener tells me that this is an American importation. Round below is a dwarfish red plant, which is cultivated as a border. Each will live out the winter. In another bed you find such plants as we used formerly to see only in a conservatory—some of the Fern class. Then I am told that this long, drooping, graceful leaf is the *Beaucarnea tuberculata*, and this the *Sempervirens* something. But I think I had better not attempt the names, or I shall be sure to get into trouble, being profoundly ignorant of botany. It comes to this: the gardener has planted a number of showy broad-leaved plants of varied colour, which are very effective, and are to last all the winter. Particular care has been taken with the beds in the Champs Elysées, and the short, thick, bright grass which surrounds them is perfect. The public are so well educated that no protection in the way of railing is at all necessary. It is not only round the lake of the Bois and the Champs Elysées that these horticultural triumphs appear; but in the many public gardens all over the city of new and imperial Paris, you meet a novel and agreeable display of varied green decorative plants refreshing to the eye, which the gardener has arranged "with nice art, in beds and curious knots."—(*Morning Post*.)

CONIFERÆ AT LINTON PARK.

(Concluded from page 310.)

PICEA CEPHALONICA, 33 feet high and 27 feet in diameter, having grown 9 feet in five years. In two specimens here, both nearly alike in size, the tops are gone, but whether by an accident or insect I am unable to say. Had it not been for this the trees would have been much higher; as it is, they are bushy, and close-growing. One of these has borne cones for some years. This species seems to exhibit a diversity of form as well as foliage, some of the trees approaching the type of *P. pinsapo*, which when true forms a much superior specimen to *P. cephalonica*, although the latter is not without its merits.

PICEA WEBBIANA.—Several trees upwards of 24 feet high by 17 feet wide, but one or two which died were considerably more than 30 feet high. This species, however, is not by any means hardy; in fact, it shows unmistakably that it either is not so, or the situation does not suit it, as portions of the tree die off every year, and the growth is very limited; its principal merit is the beauty of its cones which are furnished in great abundance. They are of large size, and in colour of a beautiful purplish black. It is to be regretted that the tree is so tender; its appearance here denotes something amiss, several trees being all affected alike, portions dying while others are clothed with as handsome a foliage as can be met with in the genus. I believe that in a moister situation it has done better, but my experience of it here in a soil of a contrary description, is such that I cannot recommend its general adoption for an ornamental tree.

PICEA PINSAPO, 30½ feet high and 20 feet in diameter, a perfect cone, closely grown and as symmetrical as if trained by hand; and the short stubby foliage thickly set all round the twigs is so dense, that no part of the bole of the tree is visible without pulling the branches aside. It would be difficult to imagine any *Pinus* more handsome. The deep green foliage and the sturdy compact habit of the branches, with the upright growth of the bole, render it a great favourite. I believe that there are not many fine trees of this species in the country, for like many of the genus to which it belongs, its growth while in a young state is not very rapid, but when fairly established it grows as fast as commoner species. The specimen referred to has grown 9½ feet in the last five years, and as the dimensions of this as well as of all others were taken last December, at least 18 inches more may be added to its height at the end of 1886. The situation in which this tree is grown is sheltered, and the soil moderately good, resting on a subsoil more or less intermingled with loose stones, but I believe it is well suited to the growth of most trees. I have not observed any appearance of cones on it yet, neither is their production desirable. This fine species has certainly not received the attention which it deserves, for I have never seen any specimen of *Picea nobilis* or *Picea Nordmanniana*, the two most esteemed members of the family, approach this in beauty and healthy vigour. Most likely its tardy growth in a young state militates against it, and I am compelled to say its progress here in that condition is not more satisfactory than at other places.

PICEA NOBILIS, 24½ feet high and 14 feet in diameter, having grown 14½ feet in the last five years. I expect the growth of

the present season, 1886, will be 2½ feet; but the rapid progress in the last few years is due to the fact of the tree having lost its leader about sixteen years ago, and remained six or seven years without one, when it sent up of its own accord two leaders, each as upright and symmetrical as could be desired in any seedling tree. One of these having been removed, the other has made rapid progress in a perpendicular direction, and is as straight as an arrow, and tolerably well furnished with branches, two sets of these being produced each year, so that there is not more than 15 inches of naked stem in the widest place; and the lowest branches are growing freely, so as to promise to meet the wide bottom that was formed while the plant was without a leader. The foliage is most handsome, the tops of the shoots being clothed with closely inserted leaves of a rich glaucous hue, while the older portions are of a deep green above and white underneath. Perhaps, however, the most remarkable feature in the plant is the size and beauty of its cones. The tree in question produced cones last year for the first time, and this year it has had upwards of twenty upon it. Their size, I think, alone entitles the species to the name given it, for one which I have before me is 10 inches long, with a circumference of 11 inches at the base, and of 10 inches at the smaller end. They also differ widely from most other cones of the *Pinus* family, for instead of the scales pointing upwards towards the tip, they are inserted at right angles to the core, and closely fitting into each other; their extreme points bend downwards and overlap, so as to show a sort of spiral moulding in one direction all round, and mathematically correct. Altogether the cone is an object of great beauty, to which description fails to do justice. It is to be regretted that none of the cones possess good seeds; this is, probably, owing to there being only this one tree of any size in the grounds.

PICEA LASIOCARPA.—This promises to be a free-growing species, but the plants are only small as yet. There seems, however, to be some doubt as to whether this is sufficiently distinct from *P. amabilis* to entitle it to a separate name. *P. grandis* seems to be more of a glaucous hue, but we have not any specimen sufficiently advanced to be worth noticing here.

PICEA NORDMANNIANA.—We have also only small plants of this, but they promise to make good progress. This fine species is certainly deserving of a position everywhere, provided good seedling plants can be obtained, but there are so many evidently not seedlings, and which form a sort of distorted branch for some years, that I fear some persons have become disgusted with the plant and discarded it altogether. Where, however, a well-grown healthy seedling is to be met with, nothing can look finer; its long curved foliage of the broadest type, of the deepest green above, and most silvery hue beneath, has a lovely appearance, while the plant possesses all the lofty character of the Silver Fir. The latter, indeed, is a tree not half so generally planted as it deserves to be. One which I saw not many days ago was 107 feet high, with a circumference of 11 feet 8 inches at 5 feet from the ground, and it was to all appearance perfectly sound. *P. Nordmanniana*, whose introduction amongst us dates farther back than that of the *Wellingtonia*, has been tolerably widely scattered over the country, but I believe that no specimen of it can equal the latter for size at the present time. One of the best which I have ever seen is at Fairlawn, near Tunbridge (the residence of J. Ridgeway, Esq.), where, in the spring of 1864, a fine healthy specimen of *P. Nordmanniana* was upwards of 9 feet high, and judging from its appearance at that time, I suppose it to be now 15 or 16 feet high. The trees which we have here are much less, and that first planted was not satisfactory.

RETINOSPORA.—*Obtusa*, *pisifera*, and the variegated forms of each, have their representatives here. The first two seem to grow very fast, quite as much so as *Cupressus Lawsoniana*, to the form and habit of which they have a strong resemblance; but as we have no large tree of any of these, they are only mentioned to show that they are promising species. *R. squarrosa* and *R. leptoclada* are less vigorous, and the rich-coloured *R. ericoides* does not here put on its mulberry suit until rather late in winter, whereas on some soils of a peaty character I have seen it encased in bronze early in October. I expect, however, that under the most favourable circumstances this singular plant will never attain a higher position than that of an upright-growing shrub; the first-named member of the family may, however, rank with our best *Cypresses* and *Thujas*.

TAXODIUM SEMPERVIRENS, 28½ feet high and 23 feet in diameter, a healthy fine-growing tree. The foliage, which in plants in a young state often becomes brown and damaged at

the tips, is much less so in the adult specimen; and a peculiarity in the bark is, that it is very thick and spongy, almost like a quantity of cocoa-nut fibre united together, and feeling soft to the touch. It has been said that this tree thrives best in a damp situation; but the specimen, of which the dimensions are given above, is placed under conditions precisely the reverse of that, and some other younger trees also promise well on a dry stony soil, but one or two plants near water and on a very stiff loam are also healthy and vigorous. The general outline of this tree is conical, its lower branches sweeping the ground, and it bears no resemblance whatever to the common Yew to which it is related, but its foliage is never so deep-coloured and clean; nevertheless, there are few collections in which this does not deserve a place.

THUJOPSIS BOREALIS, 11½ feet high and 6 feet in diameter, having grown 8 feet in the last five years. A sturdy grower, starting away with a clear head, which is apparently likely to continue so, and differing widely from the older forms of *Arbor Vite*, to which it is related. I do not know how aged trees of this species may look, but young ones promise well, and I expect this *Thujopsis* will become a dense, massive-looking tree; its foliage is stronger than that of any of the *Thujas*, and, with the exception of *T. gigantea*, it is the darkest. It is apparently very hardy, and transplants well.

THUJA AUREA.—This has no claim to be called a tree; but is certainly a handsome shrub, having a balloon shaped outline. I may, however, remark to those who wish to plant it in exposed places, that rabbits are very fond of it, speedily disfiguring and eventually destroying it if protection is not afforded. They are also very destructive to other *Conifers* as well.

THUJA GIGANTEA.—There is some doubt as to the tree which we have under this name being the true one. It is about the same size as *Thujopsis borealis*, but differs widely from it in the foliage being of a darker green on the under side. It seems to be very hardy and deserving of attention.

THUJA LOREI.—This is by far the most promising tree introduced of late years, with the exception of the *Wellingtonia* and, perhaps, *Cupressus Lawsoniana*; I am not certain that it yields to the latter in point of merit, while in rapidity of growth it is even superior to the Mammoth Tree itself. A specimen here measured last December 19 feet in height, and was 6 feet in diameter, having grown 15½ feet in five years, and in two consecutive seasons it grew altogether 8½ feet. The position which this tree occupies is sheltered, and it has perhaps run up faster than it would have done if it had been more exposed; but the species is undoubtedly of rapid growth. Nothing can exceed the beauty of the foliage on the lower part of the tree, for unlike many of its class, whose branches have a vertical character, they have in this rather the graceful curve of the Fern, the flattened side of the foliage being upwards, while the leading stem rises up like a fishing-rod, and is quite as straight. As a tree it is much admired, and deserves to be more extensively grown. It is also apparently as hardy as the Yew, and will evidently be a popular tree.

THUJOPSIS DOLABRATA.—The plants are as yet too small to comment upon, and their growth is not by any means so rapid as that of some of the *Thujas* above mentioned. It is, however, interesting as a species, and differs widely from others.

WELLINGTONIA GIGANTEA, 18½ feet high, and 10½ feet in diameter, having grown nearly 12 feet in five years, and during that time twice lost a leader of 9 or 10 inches in length. This specimen differs from others which we possess in being of a true conical form, with the branches close and compact, and looking at a little way off as if it had been clipped into shape, although the knife has never touched it, showing what different forms such trees will assume. We have others as much broken in outline as a Scotch Fir would be if left alone in an open place; not but that the conical form is still preserved, but the outward feathering of the tips of the branches gives, perhaps, a more natural form than the exact symmetry of outline exhibited by the tree referred to, and yet the branches are dense also. A tree of the latter description, growing in a very exposed place in the park, was 14 feet high and nearly as much in diameter, healthy and robust to a degree which no indigenous tree could excel. I found a cone upon a tree somewhat smaller than the last-mentioned; it is about the size of a moderately large hen's egg. Some very small trees have on more occasions than one put forth cones; but I never saw one advance so far as this has done, and it is not to be desired that cones should be produced on trees so young. The *Wellingtonia*, however, seems to adapt itself to situations of all kinds; some of the best specimens which I have seen are, however,

growing on what I would call a good deep garden soil, neither too dry nor too wet, and with a healthy, sweet subsoil. Here we have them on various kinds of soils; some succeeding very well on a dry hill, where at least three-fourths of the material in which they are growing consists of stones. The substratum, however, is accessible to their roots. I am far from certain that much stone is beneficial, for a neighbour of mine, who had a very fine tree growing on a soil overlying limestone rock, found that it thrived remarkably well for a time, but it afterwards began to languish, and has since merely existed. This result has been ascribed to the roots coming in contact with the stone. Other trees near it look well; a large Cedar of Lebanon appears as if it would live some centuries, and the robust *Paulownia imperialis* flowers well in most years. The plant in question may, however, have been injured in other ways, for it is not certain that the presence of limestone under the surface was the cause.

One drawback, perhaps, to the *Wellingtonia* is that it transplants badly after being longer than a year in one place, and it is not advisable to transplant it from pots unless the plants are very small, and consequently have not formed roots too thick to be disentangled and laid out straight. In the autumn of 1863 I planted out in a nursery-bed upwards of two hundred small plants, which were in three-inch pots; the roots were easily disentangled, and being carefully spread out formed nice matted bottoms when the plants were wanted to take up again. The *Wellingtonia* also, I may add, grows later in the autumn than most other trees. I think in mild seasons it is in active growth until the middle of December. I expect, however, that September or the early part of October is the best time to transplant it; but I have removed small plants not in pots in all the summer months with a fair share of success, while I have been unsuccessful with some fine plants that were removed in January, simply, I believe, because they had been too long in the place whence they had come.

The merits of this tree are so well known as to require no comment; but all that has been said in its praise is not too much, and I expect in ages to come the time when the *Wellingtonia* was first introduced into England will be looked upon as an epoch in the history of its natural productions, and one which was destined to alter or add materially to the landscape scenery of the country. The abundance of plants now to be had offers advantages to those disposed, to plant this fine tree in every possible way, and there are few places in which it will not be at home. Perhaps the only one where it ought not to be planted is very near a dwelling-house, where its towering proportions may eventually occasion chimneys to smoke, as well as be inconvenient in other ways. Not many days ago I saw a *Wellingtonia* not more than 6 feet from a sitting-room window, and no doubt the owner prided himself on possessing a specimen of the largest tree in the world; but excepting such ill-chosen situations as these, there are few I believe to which it would not quickly adapt itself, and where it would not do credit to the planter.

In drawing these remarks to a close, I may observe that all mention of small specimens of the *Conifer* family has been avoided, as they are not sufficiently proved to warrant much being said of them. Of the species which I have named there are, doubtless, some larger specimens in the country, and especially of the *Wellingtonia*. Of this, one of the largest trees which I have seen is at Fairlawn, and I expect by this time that it will be 26 or 28 feet high. Some of the species, as *Abies Douglasii*, do not seem to thrive very well here; but with this exception and that of the *Picea Webbiana*, I hardly know of any that have not done well, except, perhaps, some of the very delicate or slow-growing kinds. *Sciadopitys verticillata* makes no progress, neither does *Abies Kämpferi*, or but very little, and I question much if *Torreya grandis* and *T. myristica* will ever become large trees. There is, however, abundant variety amongst those which really do prosper; and amongst the *Retinosporas* and *Cypresses* of recent introduction, there are some, doubtless, which not many years hence will attain an altitude of 20 feet or upwards. When they do that they are entitled to the character of trees, and probably other parts of the globe will yield us species during that time as useful and interesting as those which we now possess. It would certainly be worth while on the part of those who minister to the taste of the horticultural world for new things, to turn their attention to the introduction of other hardy trees as well as *Conifers*, for assuredly something useful of this description is to be had in the regions whence these come.

Will some of the other correspondents of THE JOURNAL OF HORTICULTURE report on any particular specimens which they may possess? Comparing notes on such matters is at all times instructive.—J. ROBSON.

HEATING A GREENHOUSE FROM A SITTING ROOM FIRE.

[ALTHOUGH this is in answer to a correspondent, "A. H. T.," yet it is of general interest, and we insert it prominently.]

You can heat your lean-to greenhouse, 21 feet by 13 feet, from a boiler at the back of the sitting-room fire, or all round the fire-place, except the fire bars in front, provided there be no necessity to take the pipes downwards from the boiler. If the flow-pipe is not lower than the height of the water in the boiler, and the return-pipe is not lower than, say, 6 inches from the bottom of the boiler, there will be plenty of circulation, even if your boiler has a moveable lid for putting in water, like a common cottage range, with a boiler at back and side. To make the matter more simple, 1-inch or 1½-inch pipes could be screwed into the boiler, taken through the walls, and then screwed into caps that would fit into three or four-inch pipes. If, however, the boiler in the sitting-room should be a number of feet—say from 3 to 10 feet or more, below the level of the floor of the greenhouse, then the heating will be all the more easily done if the boiler have a close top without a lid, and a small cistern be placed at the farther end of the pipes, which, if kept nearly full, will always insure the boiler being supplied. In such a case it will be well to have a tap in the flow-pipe to shut off when heat would not be wanted in the house; and in that case a small pipe should go from the top of the boiler outside the house, and higher than the highest point of the pipes in the house, to prevent any accident from compressed steam. To prevent that pipe becoming choked up, it should have its mouth turned down thus ♀.

Judging from the above, whether the position of the boiler is suitable, and presuming that it is, then to obtain heat enough in cold weather with little trouble, it would be necessary to have a fair amount of piping to keep up heat for a good while after the fire had gone out; and, in addition, it would be necessary to put on a fire at bedtime; and to secure the most benefit from that, a plate of iron should be provided to go over the fire, and another to be placed inside or outside the bars, merely leaving some small openings for a little air to keep up a slow combustion. By these means such a house attached to a dwelling can be kept comfortable with a very small amount of care, and even a little extra heat in spring and autumn will do the plants good by permitting of a more free circulation of air.

Three four-inch pipes for the length of the house would heat it admirably—two flows and one return; and five pipes would be necessary for stove plants, or even six would be as well, bearing in mind that the first expense in pipes will be the greatest ultimate economy.

If the boiler can be managed as suggested, then you may have one end of the house next the boiler made into a stove, with taps to shut off from the other house; but if the boiler were about the middle of the house, the main flow from the boiler could terminate in a T-piece, and on one or both legs of the T you could have a tap fixed to regulate the circulation. If your boiler is below the level of the pipes, the water will circulate fast enough through the opening of a common beer-tap to heat a four-inch pipe. Of course, it would be as well if the opening were larger, but there is no question as to the heating with such a small one. We mention this more particularly, because against dwelling-houses such heating from a house-boiler is often easiest done by connecting the boiler and main heating pipes by means of pipes much smaller than those used in the house.

If the boiler is lower than the pipes, the top of the boiler close, and the pipes rise a little to the extreme end, and a cistern is placed there, rising about 6 inches above the level of the flow-pipe, that will allow for the expansion of the water, and provided the pipes are kept full in the cistern, the boiler will always be supplied with water. In an open-lid boiler the flow-pipe must always be kept full or nearly so.

Failing the boiler, the simplest plan for keeping the frost out of such a house would be having an iron or brick stove in the house, with an iron funnel through the roof. A combination of economy, efficiency, and cleanliness would be secured by having a small flue and a furnace outside, and if the top of the flue formed a part of the floor or pathway so much the better.

It is difficult to secure all advantages. The boiler at the fire-place would be next to self-acting, and would require no extra fuel except in very cold nights, and, perhaps, lighting an hour earlier in the morning. If fires are used in summer, when heat would not be required in the greenhouse, an iron plate or even a thin fire-brick, with a small vacancy between it and the boiler, would prevent the boiler heating much. If furnished with an open lid, the heat could be shut off and the steam go up the chimney in the usual way. In a close boiler, as already alluded to, it would be necessary to have a steam or vapour-pipe when the circulation in the pipes was stopped. (This answer will also reply to "Z.," "O. G.," and "J. W.")

ALPINE STRAWBERRIES IN AUTUMN.

In answer to a correspondent, inquiring how he may have this Strawberry in the autumn, I see you have recommended him to raise it from seed, which is very different from my mode of obtaining this Strawberry from May up to the present time, and even later, if the weather be open.

For early fruiting, I leave those plants that gave me the autumn fruit in the previous year, allowing them to bear as long as possible. In a season such as we have just experienced, they will continue bearing until August, without even a single watering; but should the season be dry, they can scarcely have too much water.

After they have done bearing they are dug down at once to make room for something else.

Those for autumn-bearing I take from the parent plant from the middle of April to about the same period in May, according to circumstances, preferring a few dull days for planting them out, as that saves much after-attention in the way of watering. I also prefer a north border, if possible, for there they require less watering when the season is dry, and I find the fruit larger.

The plants, being planted at the season I have recommended, are very apt to come into flower; but the first flowers ought to be picked off, as they weaken the plants, not over-strong as yet, and the fruit would come in at a season when not required, as early fruiters would be still in full bearing.

I find from experience that by only allowing the plants to bear two crops, there is but little more trouble, and no disappointment, as you are always sure of excellent crops, both late and early.

My mode of preparing the ground is simple, and little expensive; plenty of leaf mould being put on the border, dig as deeply as to cover it.—JAMES STEWART, Nuneham Park.

ROYAL HORTICULTURAL SOCIETY.

WEEKLY SHOW, October 27th.—At this meeting prizes were offered for the best collection of vegetables, and this brought together one of the prettiest Saturday exhibitions of the season. Mr. Sage, gardener to Earl Brownlow, took first prize with a very fine collection both as regards quantity and quality. Mr. Earley, of Digswell, was second; and Mr. Young, of Highgate, third. Mr. Young received an extra prize for a collection of fruit, as did also Mr. Earley. Mr. Young obtained in addition an extra prize for a collection of Agaves. Mr. Perkins, gardener to Lord Henniker, received a certificate for a dish of very good Strawberries.

UTILISING A ROOM CONNECTED WITH A GREENHOUSE—ANTS ON PEACH SHOOTS.

My small lean-to greenhouse has a door in the back wall opening from a small room communicating with my house. This room has no window, but receives its light from the greenhouse. It has a small fireplace, and its other door leads into the principal passage of the house. Under the greenhouse is a chamber about 4 feet deep, with an earth floor. It has a small window opening into the scullery, where my stove is placed. A trap in the greenhouse floor admits to this chamber. All the pipes are above the floor, and do not pass through the lower chamber. Can I use this chamber for wintering my plants? Can I lay down my potted Vines there? How can I best turn it to account? Can I use the small upper room at the back of my lean-to for similar purposes? or how can I otherwise utilise it?

One of my wall Peaches is infested with ants, which fill every

young shoot, and lay their eggs there: will they destroy it?—D. J.

[The little room at the back of the greenhouse having a door opening into it will be useful for keeping early bulbs in summer, and for keeping your Vines in pots, Fuchsias, Japan bulbs, Roses in pots, &c., in winter. With the door open that leads into the greenhouse (there being no window in the room), and some more light borrowed from the greenhouse in the shape of windows, some flowering plants could be kept there all summer as an entrance to the greenhouse, and some pretty plants in the best positions in winter, in addition to the commoner ones in a state of rest.

As to the unheated chamber below the greenhouse, 4 feet deep, with a window opening into a scullery, in which your stove for heating the greenhouse is situated, no place could be better for resting your pot Vines when the wood is mature. Then as to utility, hardly a better place could be obtained for growing Mushrooms in the summer months if kept cool, or with the heat turned off if there were pipes in it; but as we presume you could easily take two or three pipes through this chamber from the stove in the scullery, then from this time to next spring we know of no better place for easily securing during the winter Mushrooms, Sea-kale, Rhubarb, Chicory, &c.

We suspect you have something besides ants on your Peach shoots in the shape of lice or scale, and the busy ants visit them to obtain what provision they can from them. We have noticed them housing lice and scale as carefully by covering them up as a poor man would house his cow. Be this as it may, you cannot too soon wash all the shoots with a brush and soap and water, and then it would be well to water the ground with guano water, or if not handy lime and soot water, using both the lime and soot fresh. Ants rarely do harm to the wood of trees, but they will cut the parts of fructification out of flowers, and will dig into fine fruit with as much gusto as they will partake of the sweet exudations of insects.]

NOTES AND GLEANINGS.

The Royal Horticultural Society's Show proposed to be held next year in conjunction with the Show of the Royal Agricultural Society, will not take place, the situation in proximity to the Agricultural Show not being suitable. Is it absolutely necessary that they be close together? Will not the inhabitants of Bury St. Edmunds make an effort to prevent the disappointment which we know will be widely felt?

The continued rains have been productive of consequences far more serious in France than in England. In many vineyards the Grapes have rotted on the Vines. In one department, Lot de Garonne, 900,000 Tobacco plants have been destroyed by the inundations.

It seems that salmon may be cultivated in private gardens. Last February twelvemonth Mr. Dale, the gardener of the Middle Temple, obtained and deposited in the little pond in the Temple Gardens a small quantity of salmon spawn; and so well has this thriven that now a really considerable number of salmon fry, some of them 8 inches long, may be seen sporting in the waters of the fountain.

WORK FOR THE WEEK.

KITCHEN GARDEN.

In this department proceed with such operations as draining where required, laying Box-edgings, gravelling walks, and the trenching and surface-stirring of all spare ground. *Beet*, embrace the first dry weather for taking it up; also *Parsnips* and *Carrots*. Let them be taken up in the early part of the day, and spread them on the surface of the ground to dry till the afternoon, when they may be taken to the storing-room, and there spread out again till they are quite dry, after which they may be stored in dry sand. *Brussels Sprouts*, remove the decaying leaves from these and *Broccoli*, also from all other growing crops, carrying them away at once to a piece of ground where they can be trenched into the soil, sprinkling them first with quick-lime to destroy the snails and slugs, with which they swarm at present, as well as to hasten decomposition. *Cauliflowers*, stir the soil amongst the plants under hand-glasses, and sprinkle the surface of the soil with charcoal dust if it can be had. *Celery*, attend to the earthing-up when dry. *Lettuce*, constant attention will be necessary for some time to preserve the plantations from slugs.

FRUIT GARDEN.

Prepare ground for new plantations of Gooseberries and Currants. Cuttings of favourite sorts of Gooseberries may now be made, and planted in beds manured with leaf mould and sand; the latter will aid their rooting, and the former will hasten their growth. Planting fruit trees either in the open quarters or against walls may be commenced at once, supposing the borders to have been sufficiently prepared for their reception. In planting trees between old-established ones against walls a hole of considerable size should be made for the young tree, and refilled with fresh compost. In preparing new soil for planting fruit trees endeavour to keep it as dry as possible, and choose a dry day for planting, that the soil may be in a favourable state to encourage the growth of fresh roots this autumn. The present time is also the most favourable for relifting and root-pruning such trees as are too luxuriant, and require checking to induce a fruitful habit. We prefer lifting the trees entirely, unless they are very large, to cutting off the roots as they stand. After shortening the roots proportionally to the strength of the tree, spread them out near the surface, and fill in with compost, on which a mulching of half-rotten dung should be spread to prevent frost from entering the ground; but while the above is often necessary with existing trees planted in too rich or too deep borders, it should be borne in mind that it is only a palliative measure, and in the course of a few years will require repeating, unless steps are at the same time taken to make the border more shallow or poorer, as the case may be. We are of opinion that most wall trees would be more fruitful were their roots confined to borders of very limited extent, compared with what is generally the case, and by which the balance between the roots and branches could be adjusted without the trouble and expense of lifting and root-pruning. Clear off the remaining leaves from wall trees to give the wood the advantage of sun and air to assist its ripening.

FLOWER GARDEN.

Take every opportunity of removing from the flower garden any remaining plants which it may be desirable to keep over the winter. Half-hardy plants and shrubs will likewise require some protection on frosty nights. Some of the best appliances we have for this purpose are conical and pyramidal baskets made roughly with common Osiers; they admit air, and in severe frost should be thatched very slightly with Fern, Beech branches with the dry leaves on, or the light spray from the Yew or Spruce Fir. In this form they are not unsightly, and are cheaply made. As soon as the flower-beds or borders have received the first shock from the approaching winter, a general trimming of the decayed shoots should take place. Previous to this, however, the final remarks for the season should be made as to any re-arrangement of height, colour, or kind in the ensuing spring. This is more especially necessary where alterations of any kind in the design of the garden are intended. When the beds are cleared of decayed matters, a quantity of such biennials as the dark Wallflowers, Sweet Williams, &c., may be planted in blanks, or bulbs may still be inserted for a late display. It may be necessary to pot some plants for spring propagation. Ornamental climbers on trellises, arches, &c., in blossom, should have protection on nights of a frosty character. Much valuable late bloom may sometimes be insured to the proprietor by such simple means, as it not unfrequently happens that after one or two severe nights the weather becomes mild for weeks.

GREENHOUSE AND CONSERVATORY.

One of the chief evils we have to contend against at this season of the year is humidity; while we are anxious to afford our plants the advantages of a continuous supply of fresh air by the ordinary contrivances in our plant-structures, the admission of this grand essential is the introduction of the crude unwholesome fogs of November, so fatal to many exotics; the remedy lies in an improved system of ventilation, by which the air could be rarified prior to its entrance into the conservatory. A series of small orifices below the hot-water pipes and ventilators at the back of the house is a ready method, would secure a constant supply of fresh air, and cause a desirable activity in its circulation. Restrict water in the case of all plants which have perfected their growth, withhold it entirely from bulbous plants from which nothing further is required this season. Hybrid Roses and Chrysanthemums may receive manure water occasionally. They may be associated with Cinerarias and Chinese Primroses, which require protection rather than a forcing temperature at this season of the year. The Camellias will form most prominent objects in

the conservatory for the next six months, and those which have been managed according to our previous directions for forcing-purposes, as it is commonly called, will be in full gaiety from this period till Christmas. Such should now have weak and clear liquid manure, and a temperature of from 50° to 55°, descending at night to 45° in dark weather. A very considerable amount of atmospheric moisture should be afforded them. Drip, however, must by all means be avoided, and the syringe is out of the question.

STOVE.

Many denizens will now be in action, such are the *Euphorbia jacquiniæflora*, *Gesnera zebrina*, *Achimenes picta*, *Gesnera oblongata*, *Linum trigynum*, *Plumbago rosea*, *Begonias*, &c., all of which should have a temperature of 60° secured by day, rising to 80° in sunshine, and sinking to 50° at night. The above are all most useful and interesting flowers for the dead of winter.

PITS AND FRAMES.

Everything should be finally arranged here as soon as possible. See that *Mignonette* has a very light situation; plunge it close to the glass at the back of the frame and free from drip. Store *Verbenas*, those growing rapidly should have their tops pinched, also *Petunias* and other ordinary mass flowers. Give abundance of air, and water as little as possible; moisture is more destructive than cold, use every precaution against its effects. Leave air on all night, be it ever so little. This we would do even when matted overhead, except in very severe weather. Care should be taken that the plants do not become sodden by heavy rains; the lights should be always on during wet weather, but tilted up at the back.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Dwarf Kidney Beans and Scarlet Runners.—Those that were protected with a little Pea haulm and litter in the frost of Monday week, have yielded nice gatherings. Those exposed have been much injured. The best plan we have ever used for protecting such crops late in the season, has been placing two sticks at every 6 feet or so, and running two rough straw ropes from stick to stick over the row. The rope was left very rough in the twisting, the ends being left out. We had none to fall back on this season, but still the rougher mode resorted to has secured us as yet a fair amount of pods. They have been more useful, because a late succession has not done so well as usual. These were sown in an earth pit in the beginning of July, and have had old sashes over them lately, but are not swelling fast, owing to the dull wet weather. A few bright sunny days will insure a large yield from these plants, as the sun heat shut in would cause the pods to swell quickly. If the damp weather continue, the yield will not be heavy. We would have sown these Beans in pots if we could, and then in such a season as this, we could have removed them now to a place where a little dry heat could be given; in this they would have produced heavily, if moved, say, a week ago. They will be useful as they are, but if in pots they would have been more independent of the weather in the end of autumn. By running a rough straw rope along a row of *Scarlet Runners*, we have frequently had them good to the end of November. The provision of wild fruit for birds would seem to point to a hard winter; but as a general rule, if we have a rather sharp frost in October, it will usually be found that we do not have it severe before Christmas.

Cauliflower.—If frost is apprehended, it is well to turn a leaf or two over the advancing heads. They are all the better and whiter to be thus kept from the rain at this season. If frost threaten, it would be well to place a small wisp of clean litter or hay over each head, after the leaf is bent over it.

Broccoli.—The forward crops especially, will be better if the stems are laid down to be nearer to the ground, and be covered with earth. This is best done by moving the earth from the north or east side of the plant, bending the stem, without disturbing the roots, into the groove or trench, and keeping the stem there by placing earth taken from the next plant upon it. The plants are thus rendered more independent of a hard winter. Where there is abundance of dry long litter, it is a good plan to pack up the stems of the plants with it, using a little of it to protect the heads in severe weather, and all will make good manure to trench down for Peas next season.

Lettuces want much care, as slugs and grubs are troublesome this season. Notwithstanding the dullness of the weather, *Endive* that ought to have been first-rate has shown a tendency

to bolt, which we never knew it do at the same age, even in a bright sunny autumn. There is plenty for succession, but such singularities show the importance of having more than one string to our bow. We have already stated, that fine *Lettuces* have shown such a tendency to rot as we never saw them do before at the same age. This was, no doubt, the result of the constant drizzle to which they were exposed.

Celery.—We had a heavy rain on the 22nd, but in many places *Celery* will require to be examined before being finally earthed-up. In a successional bed, we found the roots, notwithstanding all the drizzle, were so dry as to need a good soaking before earthing-up. Much of the mere drizzle, though wetting the foliage, and, along with the sunless weather, lessening evaporation, failed to give enough of moisture to the roots.

Asparagus.—Gathered what seed was wanted, and cleared off all the stems, together with the weeds, to the burning-heap, and covered where we could with a light dressing of rotten leaves and hotbed dung, which will at least protect the crowns that are near the surface. As stated lately, we prefer applying manure when the plants are growing, if it can then be given.

Sea-kale and Rhubarb.—Cleared the decaying leaves from a good piece of both, and marked the most forward for taking up to be forced. As soon as all shall have been cleared will throw some ashes or burnt charred earth and refuse over the crowns, which will keep many sorts of vermin from them. When hard driven the rabbit and the rat will devour the crowns of *Sea-kale*, and then look for something else.

Cabbages.—Stirred the ground amongst the first planted for spring, the plants being as yet rather small, and scattered charred and burnt refuse all over the ground, merely keeping it from the tender leaves. The ground for the succession is not yet dug, but the plants are pricked out in beds so as to keep them sturdy, and will be moved as soon as the ground is ready. The late heavy rains have interfered with digging.

Radishes and Turnips.—Threw burnt earth among the former. The border filled with young plants of transplanted *Turnips* is looking well, but in a few cases the tiny plants had been put in rather deeply. They should be planted so firmly and so shallow that the upper part of the tuber should be seen. There can be no doubt that all sorts of white *Turnips* may be transplanted in a garden and succeed quite as well as *Swedes*—a matter of importance where the *Turnip* has many vermin enemies when it is very young, and where it could pretty well hold its own after it had two or three good rough leaves.

Cucumbers.—Those planted in a pit have had all the fruit cut off that were coming, but now a part of them will be allowed to bear—that is, the fruit showing will be permitted to go on. To keep going until these come in, some fortnight or three weeks hence, we have banked round those in frames with short grass and leaves from the pleasure ground, so as to keep the inside warm. *Ayres's Perfection*, a small kind of the *Kenyon* or *Sion House* breed, is valuable for bearing profusely and rejoicing in even a very moderate temperature. It should be cut small—when not more, or much more, than an inch in diameter, and then it will eat crisp and sweet. We cannot conceive why people should run after *Cucumbers* as thick as a man's wrist. Many huge *Cucumbers* sent to exhibition-tables would be pretty well as tough as leather when cut up to be eaten. We lately saw an amateur make a circle of a *Cucumber* 24 inches long. No coaxing would allow a circle thus to be made with a *Cucumber* that was fit to eat.

Mushrooms.—We have seen no *Mushrooms* to speak of out of doors this season, but we did not require to look for them, as they came so fast in our beds in the open shed that we gave them more exposure, so as not to have too great glut of them. After twice sulphur-smoking the *Mushroom-house*, and white-washing the walls with fresh lime and hot water, we formed the first bed in it on a shelf, and thought we could have spawned it on the 23rd; but the damp close weather had made it so hot again, that spawning just now is out of the question. All we could do was to set a man to tread it well, and thump it down with a mallet to prevent the air and its oxygen penetrating into it. If this do not cause the heat to decline to a mild temperature suitable for spawning, we shall throw a little earth over the surface, so as still more to keep the air out. This bed, about a foot in depth, was formed of about three-parts of long litter, with a few droppings, thrown together, watered, turned, and returned, until it became a little short, and was rather more dry than wet. On this the remaining part, chiefly of droppings containing a little litter, was put.

Mushroom Spawn.—We lately detailed how we make *Mushroom* bricks. The weather has been unfortunate for drying

them; but as the season was becoming advanced, and the bricks were pretty mellow, though scarcely so dry as we like them, we filled the two holes left in each brick with a piece of good spawn in each hole, and kept the spawn in its place by daubing a little moist cowdung over it. Then, having prepared a slight hotbed, chiefly of litter and leaves, and set a sparred piece of old fencing over it to keep the bricks from the litter, we built them in a very open pigeon-hole fashion over this piece of fencing, placed some straw all over the heap, and then covered the heap with about 9 inches of litter. This we can add to or diminish. What is wanted is that a temperature of from 80° to 90° shall permeate the spaces between the bricks, so as to heat them equally, and this we must regulate by watching. The spawning and the heat will cause the bricks to become dry, and when thoroughly permeated by the spawn, and that not spent by moisture or an over-high temperature, it will keep in a dry place for many years. One or two cakes broken up for spawning these fresh bricks were as fine as ever we saw, and we knew, from the shape, they must have been made at least five or six years. Provided that the spawn is good, the great proportion of the failures in Mushroom-beds take place from subjecting the spawn to too high a temperature. The old rule of our grandsires is yet a most valuable one: In no case ought the spawn, when at work, ever to be warmer than the blood in the human system. 80° is a good temperature for a bed, and from 55° to 60° is a good heat for the atmosphere round it. Such shallow beds as those referred to are easily managed; but they cannot be expected to keep on so long as a thicker or deeper bed. Sometimes shallow beds do wonders when supplied with warm manure water, especially if made strong from sheep or deer droppings.

FRUIT GARDEN.

Having a small iron stove in one of the orchard-houses, put a little fire in it to ripen the Grapes and the wood of the Vines that are in it. We believe that wood and fruit would have ripened pretty well without such help; but in order to prevent a glut of Peaches, left air on night and day, when the Vines would have been all the better of an early shutting-up in the afternoon. Cleared a vinery and Peach-house, and had the glass and woodwork well washed on one of the wet days, and as soon as pruned and the bearing wood well washed, will have these houses to set flowering plants in for several months. Strawberry-quarters out of doors, we have been unable to finish cleaning and mulching owing to the weather being so wet lately. Strawberry plants in pots, we will protect from drenching rains ere long. We can turn them on their broadsides at present, but we should like a lot of the earliest to be under glass before long, and there will be room for them in earth pits, as we take the bedding plants, Primulas, &c., into the houses which are now being emptied of their fruit. See what was said respecting Strawberries in pots lately. Any pots showing bloom may be put into a drier atmosphere, and a few fruit may thus be easily obtained. The late fruit from these forced in spring has not done so well this season.

ORNAMENTAL DEPARTMENT.

Out of doors there is now much cleaning-up, and what is made nice to-day wants it again as much to-morrow. Near the mansion, and where the lawn must ever be brought under the eye, it is very desirable so to clear away fallen leaves as to prevent a feeling of melancholy. However beautiful our deciduous woods look in their rich autumn tints, all their poetical associations are gone when the leaves drive along, the sport of the breeze, or cover our walks and lawns. In all places that seldom come under notice and review, mere economy in labour, whilst so many other things demand attention, would say, Clear these places up less frequently, and give a final clearing up when all the leaves have fallen. A good brushing and rolling of the lawn will then carry us on for some weeks.

We found, rather to our inconvenience, that the drizzling weather had made our lawns grow too long and soft for our mowing machines, and even though loaded with fog and dew, the grass was too woolly for the scythe; but we made beautiful work by mowing and cleaning up in the first part of the day, and then running the machine over the same ground when the grass was thoroughly dried after sweeping. The flower-beds began to look so well for a few days before the 22nd, that this mowing gave a good opportunity for dressing the beds, making them look much lighter and brighter, and taking up some of the prominent weeds on the lawn, as Plantains, &c., as all was swept up together; and this being done when the lawn was dry,

there was nothing to mar the rich green hue, and the machine following took out every wrinkle, and left the grass as level and soft as a rich carpet. When, however, we were fully expecting a fine show in the end of October, which the frost alluded to last week did little to mar, the continuous rains that have since fallen have now taken away all hopes of having masses of colour this season; and though the beds are still green enough, the small number of flowers and the swirling of leaves tell us that the interest of the flower garden for the season is gone.

Meanwhile the grass grows with such rapidity that scythe and machine must be almost constantly employed; and one advantage is, that the grass and fallen leaves come in now most usefully for forming at least the bottom parts of temporary hotbeds, for giving fresh-lifted, fresh-potted subjects, as variegated Geraniums Mrs. Pollock, Golden Chain, &c., a fresh start in the rooting process. Heat may be obtained from such rough dangerous materials without doing any injury if all steam is kept down by from 6 to 9 inches of half-rotten leaves or cinder ashes.

With respect to taking up plants from the flower garden, see what was said last week. We have as yet done little in this way, having had a good deal to do in placing plants in pots under protection from frost and rain, washing the pots that had been exposed, fresh draining, and top-dressing when wanted, clearing out Balsams and most of the Fuchsias from the greenhouse and conservatory, thinning the creepers for winter light, washing thoroughly glass, stages, and shelves, and preparing for filling for the winter, so as to give us more room in other places for getting bedding plants more secure than in their present temporary habitations.

Prepared a lot of rough hay and litter in a shed for use in an emergency, taking it from our reserve stack, which is thus formed: The bottom part is rough hay obtained from the least visited parts of the pleasure grounds, and this was covered to a good depth with long litter that came from the stables in summer, and which was pretty dry when well exposed, and all the droppings were carefully shaken out of it. Such a rough stack of materials is a capital resource in winter, for when a sudden frost comes a yard of it may be cut down with a hay-knife for protecting-purposes.

Planting Trees and Shrubs.—No weather could be better for this purpose, except, indeed, a day of continuous rain, and here we would refer the reader to what has lately been advanced. Let two things be particularly attended to: Be sure that the collar of the plant after removal is not lower in the ground than it was before; pack the roots nicely, and provided they are sufficiently moistened, and the soil round them damp, do not consider it essential to make the earth like the mud in a pond. If the earth is moist, as it is here, no watering will be much better than extra watering. If the stems should suffer from a keen frost, or a dry parching air, in extreme cases it might be advisable to syringe the heads of the plants.

Bulbs.—Plant out of doors as soon as may be, and where the ground requires much preparation, plant temporarily, that the strength of the bulbs may not be exhausted. In addition to using these bulbs liberally in gardens, who will begin to institute bulb gardens by themselves, in places distinct from the general flower gardens, and where everything could have full justice, without planting too late or moving again before the bulbs were fully ripe? What pretty designs, as scrolls and lovers' knots, and interlaced serpents, &c., might be formed with the distinct varieties of one kind of bulb—say one for Tulips, one for Hyacinths, and one for Crocus. How well would these designs of Mr. Earley look—say the last one at page 278, if each circle were planted with a distinct colour of Crocus, and the other spaces were in grass! and even how nice it would look as a composition of bulbs entirely—the rounds of the circles as stated above of Crocus, the ovals of the prettiest Squills, and the larger heart-shaped figures filled with the dwarfest earliest Tulips, and a few Hyacinths of one colour in the middle! Who will do something like this, and ask his neighbours to see it?—R. F.

TRADE CATALOGUES RECEIVED.

John Jefferies & Son, Cirencester.—*Catalogue of Forest, Fruit, and Select Ornamental Trees, Shrubs, and Roses.*

Louis Van Houtte, Ghent, Belgium.—*Catalogue de Plantas de Serres et de Plein Air.*

COVENT GARDEN MARKET.—OCTOBER 27.

ABUNDANCE of rough articles and plenty of fruit, both English and Continental, are the rule at present, and with a slow demand growers and dealers have a difficulty in clearing their stands. New Oranges and Lemons arrive now in excellent condition, and there are still on show a few late Strawberries and some Salway Peaches.

FRUIT.

	s. d.	s. d.		s. d.	s. d.			
Apples ½ sieve	2	0 to 3	0	Melons..... each	2	6 to 5	0	
Apricots doz.	0	0	0	Nectarines doz.	0	0	0	
Cherries lb.	0	0	0	Oranges 100	8	0	13	
Cherabouts bush.	12	0	14	0	Peaches doz.	6	0	12
Currents ½ sieve	0	0	0	0	Pears (dessert) .. doz.	1	0	8
Black doz.	0	0	0	0	Kitchen doz.	1	0	2
Figs doz.	0	0	0	0	Pine Apples lb.	8	0	6
Filberts lb.	0	6	1	0	Plums ½ sieve	10	0	0
Cobs 100 lbs.	0	6	1	0	Quinces ½ sieve	5	0	0
Gooseberries quart	0	0	0	0	Raspberries lb.	0	0	0
Grapes, Hothouse .. lb.	2	0	6	0	Strawberries lb.	0	0	0
Lemons 100	8	0	14	0	Walnuts bush.	10	0	20

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.			
Artichokes each	0	3 to 0	4	Leeks bunch	0	8 to 0	0	
Asparagus bundle	0	0	0	0	Lettuce per score	1	0	1
Beans, Broad bushel	0	0	0	0	Mushrooms pottle	1	6	2
Scarlet Run. ½ sieve	2	0	8	0	Must. & Cress, punnet	0	2	0
Beet, Red doz.	2	0	8	0	Onions doz. bunches	4	0	6
Broccoli bundle	1	0	1	6	Parsley doz. bunches	2	0	8
Brus. Sprouts ½ sieve	2	0	8	0	Parsnips doz.	0	9	1
Cabbage doz.	1	0	2	0	Peas per quart	0	0	0
Capicums 100	2	0	4	0	Potatoes bushel	2	0	4
Carrots bunch	0	4	0	6	Kidney doz.	8	0	4
Cauliflower doz.	2	0	6	0	Radishes doz. bunches	0	6	1
Celery bundle	1	0	2	0	Rhubarb bundle	0	0	0
Cucumbers each	0	4	1	0	Savoy doz.	0	0	0
pickling doz.	0	0	0	0	Sea-kale basket	3	0	4
Endive doz.	2	0	0	0	Shallots lb.	0	8	0
Fennel bunch	0	8	0	0	Spinach bushel	2	0	8
Garlic lb.	1	0	0	0	Tomatoes per doz.	1	0	2
Herbs bunch	0	8	0	0	Turnips bunch	0	4	0
Horseradish bundle	2	6	4	0	Vegetable Marrows da.	0	9	1

TO CORRESPONDENTS.

*. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

QUEEN ANNE'S POCKET MELON.—The supply we had of seed was exhausted within two days after our announcement. We have not a seed left.—"Thinking that I have the true variety I have sent a small one for the Editors' inspection. Should it prove to be it, and 'Queen Anne's Melon' would like seed of it, if he will send me a stamped envelope with his address I shall be glad to send him some.—JOHN DUKES, *Nostell Priory, Wakefield, Yorkshire.*" [It is the true variety. A similar offer of seed is obligingly made by Mr. W. Henderson, New Castle Gardens, Ballymahon, Ireland.]

POLYANTHUS.—"If your correspondent 'Rev. H. H.' (page 388), has not met with double Polyanthus, I think I can let him have a plant. Mine, however, are not very dark, and they seem to have become of a lighter brown than they were when planted in my little town garden a few years ago. They have yellow edges, and look not unlike a small French Marigold when in flower.—JOHN EDMONDSON, 10, Dame Street, Dublin.

WHY AND BECAUSE OF GARDENING (H. P. L.).—"The Science and Practice of Gardening" will suit you. It explains why the practices are needed, and why diseases, &c., occur. You can have it free by post from our office if you send your address and enclose forty postage stamps.

MANGOLD WURTZEL FOR SEED (*Inquirer*).—You may plant these in March, after all danger from severe frost is over, and if you wish to improve the variety select the best-shaped and largest roots for the purpose, not the very coarse overgrown ones, which are spongy inside, but nice, firm, solid, good roots. We believe they should be 2½ or 3 feet apart, as the top becomes large if the season and situation are favourable. Small roots will produce seed as well, but it is likely to degenerate the variety.

FIRST PRUNING OF BUDDED ROSES (W. A. S.).—If a good head is wanted, prune the shoot in the spring so as to leave three or four buds. Being cut there, dormant eyes will break from the base close to the stock. If the tree is cut close to the stock, there is nothing to take off a sudden rise of sap. In such case the Briar stock would probably throw up more suckers than usual. For standards, the first year after budding three or four eyes are sufficient, and better than more or less.—W. F. RADCLIFFE, *Oxford Fitzpaine.*

WILD FLOWERS (A. Hughes).—It is impossible to say. All the native plants will be portrayed.

HEATING A GREENHOUSE BY A STOVE (W. M., *Exeter*).—The stove you name will do very well, provided you have an iron chimney to carry off the products of combustion, which can go through the roof, a pane of glass being taken out on purpose. The best iron stoves for heating such houses are those either having double cases, or at least having the fire-box fixed in the middle, but quite free from the sides, and with a flat top on which you can put an iron vessel supplied with water. A brick Arnott's stove would afford a more mellow heat still. There is always a little trouble in lighting and cleaning stoves in a house; and hence, where it can be done, we recommend a small flue below the floor, and a stovehole and furnace outside. You had better wait until you see a notice in our Journal of Hays's Constant Stove, which we hope to give next week.

IRON SUPPORTS FOR ROSES (A Subscriber).—Galvanised iron rods of any thickness are purchasable. The most effective we know are a quarter of an inch in diameter, painted brown, and of various lengths to suit the heights of the bushes, and are each driven at one end into a wedge-shaped piece of wood about 9 inches long, as represented in the accompanying engraving. This piece of wood is the part inserted in the soil wherever a support for a Rose bush is needed.

HOW BEST TO SPEND FORTY POUNDS ON A Vinery (A Constant Manchester Subscriber).—This is all a matter of taste. With fine rafters, moveable sashes, front lights, and panel doors, you could only have a very small house for your money; but with a 2½-feet wall in front, no glass there, ventilators in the wall, a fixed roof, and common boarded doors, or even a plain glass door without cross-bars, you could have more than double the space covered, and therefore all the more utility for your money. Then as to the mode of building. If there is a wall at liberty some 10 feet or more in height, we would fix the sash-bar rafters below the coping, and on the top of the wall-plate, and take in some 10 feet in width, or what would suit a 14-feet rafter. If you have no wall already we would dispense with building one, and have a span-roofed house from 18 to 20 feet in width, side walls from 2½ to 3 feet high, height to the ridge from 12 to 14 feet. We cannot say how long you may have such a house, as we do not know the building material you may want for your walls, and we fear that wood and glass are rising; but at a rough guess, and doing things plainly, and finishing with a coat of anticorrosion paint, we think you might have such a span-roofed house from 25 to 30 feet long. Of course if you had a wall already there, and a lean-to, you could have about 50 feet in length, and even more, if instead of a brick wall in front you were content with posts and wood. It will, however, be an expensive affair to build a back wall on purpose, even if only 9 inches thick.

FUEL (J. H.).—Sifted cinders and small coal are the cheapest fuel for an upright tubular boiler. Good coke partly broken is the best, with a few small nuts of coal to help in lighting. We do not think that fine coal mixed with coke would produce a greater heat than coke alone. It will cause much more smoke, and make the fuel cake more; and if the heating were to be confined to the sides of the boiler, throwing small coal on the top would help to keep the heat down. In an upright boiler the heat will be most effective when the surface of the fuel is incandescent or red hot, and that will be best secured by coke alone after the fire is fairly set alight. The damper can also be more efficiently used. Coal and coke when burned together will make more smoke than coke alone, and therefore if the fire is long it will need more frequent cleaning. With a short fire, a good damper, and a small opening below the damper, the most of the smoke will be sent back over the fire and burned.

FURZE SEED SOWING, AND PLANTING BRACKEN FERN (A Pack of Heathens).—The seed of the Gorse or Furze may be sown in March, having previously pointed over the ground, and after sowing rake it over. You will best succeed with the Fern by seeking out a place where it abounds, take up its roots with balls of soil, and plant in clumps a yard or more apart. This may be done from the present time up to spring. The Fern will soon spread so as to cover the ground, if the soil be porous and of a peaty nature. The Gorse seed is sown at the rate of from 15 to 20 lbs. per acre.

PERISTEMA CULTURE (C. L.).—"The 'Dove Flower' you had from your friend at Panama is, we presume, *Peristema alata*, an Orchid by no means common, and yet not one of the most valuable, though more so than many. Pieces of broken pots should occupy two-thirds of the depth of the pots, which ought then to be filled up with a mixture of chopped sphagnum and fibrous brown peat, adding a little white or silver sand. Compress this firmly, and in the centre introduce the plant, placing it with its pseudo-bulbs elevated above the rim of the pot, the fibres or roots only being covered with the compost. The best time to do this is at or a little before the time of the plant making its new growth. A vinery is a very suitable place for this description of Orchid, as there is enough heat and moisture in summer to secure a free good growth, and the dryness to which the plants are afterwards subjected on account of the ripening of the Grapes tends to well mature the pseudo-bulbs. Cool vinerias, however, are not suitable, nor are greenhouses, unless kept more close than such structures usually are. A vinery having fire heat in summer at times, and the temperature of 45° in winter, is suitable; and so is a greenhouse kept moist and moderately close in summer, and having a winter temperature of from 45° to 50°. An abundant supply of moisture is essential whilst the plant is growing, increasing with the growth and diminishing with its cessation; but keep dry in winter, yet not so as to cause the pseudo-bulbs to shrivel. A sprinkling overhead occasionally will prevent this, but avoid making the compost wet whilst the plant is at rest.

KEYNES'S NURSERY.—"In the account which I gave of Mr. Keynes's nursery, page 294, a mistake occurred which has just been pointed out to me; it is the end of the first paragraph. 'His foreman, Mr. Gill' should have been Mr. Wyatt, to whom I was much indebted for the opportunity both of seeing the nursery, and also Wilton. Mr. Gill, as I mentioned farther down, was my escort through the Roses, which department he superintends. I am sorry for the mistake, as I was very kindly received by both.—D., *Deal.*"

COCOA-NUT FIBRE REFUSE (*F. R. H. S.*).—Cocoa-nut fibre refuse answers quite as well as sand to preserve the roots of the Geraniums during the winter. (*C. Wrigley*).—Apply to Messrs. Barham & Co., Kingston-on-Thames.

MELON LEAVES PREMATURELY DYING (*J. B. D.*).—The leaves may die from the stem cankering or becoming ulcerated, and from an insufficient supply of moisture during the swelling of the fruit. It is not unusual, but by no means natural, for with us the leaves not only remain green until the fruit is ripe, but we cut back the vines and obtain a second crop. Not knowing the cause, we are unable to state how the leaves are to be kept fresh until the fruit is ripe. There are more causes than one which will produce the evil you complain of, and were you to describe to us more fully the circumstances under which the leaves die off, we probably could advise you further.

PROPAGATING THE WALNUT (*K. M.*).—You may propagate it by grafting upon stocks raised from seed. The nuts kept in sand during the winter, and planted in February or March 4 inches apart, and covered about 2 inches, will soon make trees of a size suitable for grafting, which should be performed upon the young (annual) wood, allowing the stock and scion to grow, and then denuding them of foliage. Adopt the mode called saddle-grafting, one side of the scion being placed between the bark and wood of the stock. The last year's wood is that which must be employed for scions, and the latter are allowed to grow in order that the sap in the parts may be in full flow, and that will be the case about the middle of May. You may also propagate by budding, but it must be by retarding the shoots of the tree by rubbing off the most prominent buds, which cause those lower down to start, and it is from such that you must select buds, taking from near the base of the shoot a minute almost invisible-eyed bud. This to be inserted near the summit of last year's growth or immediately below that of the current year.

SPRING FLOWER GARDENING (*Jane—A Subscriber*).—"Spring and Winter Flower Gardening" contains that which you seek, and you can have it free by post if you send thirty-two postage stamps with your address to our office. It would occupy too much space to answer you in our columns.

EARLY STRAWBERRY—HOLLYHOCKS (*Idem*).—The best early Strawberries are Black Prince, Sir Joseph Paxton, and Eclipse (Reeve's), if you wish for a larger fruit. *Hollyhocks*: Beauty of Cheesnut, Queen of Buffs, Sir C. Campbell, Lady Palmerston, Ohio, Conqueror, Pourpre de Tyre, Memnon, Magnet, Queen of Denmark, Queen of Whites, and Purple Perfection.

WHITE LILAC (*W. H. S. D.*).—The bloom-buds bursting now, which ought not to burst until next spring, is one of a very common set of phenomena, resulting from excitement caused usually by warm weather succeeding long-continued wet and cold.

BLOOD MANURE FOR ROSES (*Sunset*).—"If blood manure is the same as nitro-phosphate it is excellent for Roses and Strawberries. Guano

well mixed with soot and sown in November and December is one of the best and cheapest of manures; but as it contains uric acid it must be distributed, and not put on too thickly, so as to injure the roots. Supposing "SUNSET" had a bed of 1 acre, 8 cwt. of Peruvian guano would be sufficient. I should think it would require 6 cwt. of nitro-phosphate. His crowding and pigdung mixed are excellent. Crowding is the best manure of all for Roses, Strawberries, Dahlias, and Hollyhocks.—*W. F. RADCLIFFE*."

KEEPING BEDDING PLANTS IN WINDOWS (*Fred*).—You can keep Geraniums, &c., on shelves in a north-west and west window by giving them plenty of air, avoiding cold currents, and keeping safe from frost.

TREES OF RAPID GROWTH (*A. B.*).—The Ontario Poplar is, perhaps, the quickest-growing of all trees; the Black Italian, Balsam, and Lombardy Poplars are also good. We would recommend a mixed plantation of these for the outside next the building to be concealed, and in front Horse-chestnut, Elm, Sycamore, Beech, Norway Maple, Acacia, and Mountain Ash, employing common Laurel, Aucuba, and Berberis aquifolium to plant in front to thicken the bottom. Pines and Firs we think would not succeed, as you will have too much smoke. Plant 4 feet apart in lines the same distance asunder.

TEMPERATURE OF CONSERVATORY (*H. H.*).—At this time of year the temperature should be from 45° to 50° at night, and from 50° to 55° by day, with an increase of 5° or 10° with sun, and that is the temperature we advise when plants in bloom are desired throughout the winter; but if you only grow the hardier kinds of greenhouse plants, a temperature of 40° at night from fire heat, and of 45° by day will be ample, and sufficient to maintain them in flower during the winter months.

NAMING FRUIT (*Veritas*).—Six or eight specimens we are willing to name.

NAMES OF FRUITS (*G. H.*).—Your Apple is Court of Wick. (*A. Foreman, Crigg*).—1, Kentish Broadend; 2, Beauty of Kent; 3, Whitmore Pippin; 4, Cambusmethan Pippin; 5, Loan's Pearmain; 10, Ravelston Pippin; 11, Foulden Pearmain; 12, Lemon Pippin. (*Two-years Subscriber, Doncaster*).—1, Drap d'Or; 2, Nelson Codlin; 3, Winter Pearmain; 6, Bachelors Glory; 8, Surrey Flat Cap; 9, Gravenstein; 10, Forman's Crew; 11, Golden Pearmain; 12, Loan's Pearmain. (*G. T., Liverpool*).—Apples. 1, Golden Noble; 3, Gravenstein; 4, Christie's Pippin; 5, Vaughan's Pippin. Pears.—1, Colmar; 3, Figue de Naples; 5, Fondante d'Automne; (*D. M.*).—2, Ravelston Pippin; 3, Cambusmethan Pippin; 6, Tower of Glamis; 7, Dunmore. We cannot make out the others. (*A Constant Reader*).—Pears.—1, Duchesse d'Angoulême; 2, Napoleon; 3, Beurré d'Arenberg. Apples.—4, Autumn Pearmain; 6, Christie's Pippin; 7, Ravelston Pippin; 8, Russet Nonpareil. (*S. S. N.*).—1, Gansel's Bergamot; 2, Thompson's; 3, Beurré de Capiaumont. (*A Warwickshire Subscriber*).—They were named in the Number for October 16th.

NAMES OF PLANTS (*J. L. Englefield*).—1, Pellice hastata; 2, Pteris scaberula; 3, only a large form of Asplenium ruta-muraria. (*A. Wilson*).—It is Lomatia ferruginea, a native of Chili, therefore not hardy.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending October 27th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 21	29.978	29.914	68	48	55	54	S.E.	.00	Hazy; fine throughout.
Mon. . . 22	30.085	29.846	59	29	55	54	S	.30	Light hazy clouds; foggy; heavy rain; very fine; slight frost.
Tues. . 23	30.105	30.042	50	29	55	54	S.W.	.01	Hazy clouds; fine; very slight rain.
Wed. . . 24	29.908	29.704	61	43	55	54	S.W.	.42	Fine, partially overcast; very fine; heavy rain at night
Thurs. 25	29.862	29.616	49	40	55	53½	N.	.12	Rain; cold and damp; overcast; rain.
Fri. . . 26	29.929	29.892	55	29	54	53	N.	.01	Fine throughout; slight frost at night.
Sat. . . 27	29.900	29.916	54	29	52	52	N.W.	.06	Foggy; fine; drizzly; rain at night.
Mean	29.990	29.888	55.85	37.71	54.48	53.50	..	0.92	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

DEFENCE OF THE BIRMINGHAM POULTRY SHOW PRIZE LIST.

In the prize lists for the Poultry Show an important change has been made, and one which will, we feel confident, be considered a great improvement not only by exhibitors, but also by all who wish to become purchasers at these exhibitions. In future, cocks and hens or pullets will not be shown together, the only classes now opened being for single cocks of different ages, and for pairs of hens and pullets, with the exception of the Any other variety class and the Bantams. The classes for single cocks and for hens and pullets had been found so popular and useful, that the Council, acting upon the recommendation of the Poultry Committee, deemed it advisable to adopt one principle throughout—an example which we would urge the managers of other shows to follow. One of the oldest of the Birmingham regulations, and which still appears upon the prize sheets, sets forth that exhibitors will be required to state the price at which they will sell their specimens, the sound reason given for this rule being that one of the main objects of these shows is to afford an opportunity to poultry-keepers to improve their collections at a time when they are best enabled to form a correct opinion of the value of the several varieties.

But no one would wish, unless in a few exceptional cases, to purchase stock for breeding from a single strain, and thus the object in view has been partly defeated by the mode of exhibition hitherto followed, which has, we believe, had the effect of limiting the sales. In many of the classes the prizes are increased in number—another judicious change—there being now, for instance, six prizes offered in each of the four first classes for Coloured Dorkings—23, £3 10s., £2, £1 10s., £1, and 10s.; and, in order to make the plan of the new list still plainer to our readers, we may mention that these four classes are—For cocks exceeding one year old, cocks hatched in 1866, two hens exceeding one year old, and two pullets; this being the order in which the classes will be arranged in the Hall.

We are glad also to notice that at the request of a number of exhibitors classes are again opened for Silver-Grey Dorkings. The extra premiums in this division of the Show are as follows: By Mr. Robert Chase, three guineas for the best White Cochins—China cock exceeding one year old; by the Rev. Frank Taylor, three guineas for the best cock of the same breed, hatched this year, and the like amount for the best pair of White Cochins pullets; by Messrs. M. Billing, Son, & Co., a silver cup, value five guineas, for the best Black or Brown-breasted Game cock; and by Mr. G. F. Greensill, a similar prize for the best pair of Game hens or pullets in the Exhibition.

In the several classes for Ducks, a drake and one Duck only will in future be shown, and the same rule has been applied to Geese and Turkeys. A special notice appears on the pre-

gramme of this year to the effect that, "the prices of poultry and Pigeons will be allowed to be reduced on the Wednesday and Thursday of the Show, on payment of 1s. per pen for each alteration."

A further improvement in Bingley Hall this year will be seen in the introduction of new poultry pens, the Council having, on the suggestion of the Poultry Committee, offered a premium of £10 for the best design. There were several competitors for this premium, which was awarded to Mr. Lythall, the Secretary, whose design, with a few slight modifications, has been carried out, and the result is, we think, all that could be desired.—(*Midland Counties Herald*.)

NEWMARKET RACES.

Nor the races for which that town is justly celebrated, but the races of poultry which have been commented on lately in "our Journal" by our new friend, or possibly old friend in new guise, "NEWMARKET." These remarks have appeared—certainly as regards Game and Malays, possibly also as regards the other breeds—as emendations of the "Standard of Excellence," and at some of these remarks I confess I have been staggered; but ere I commence fault-finding—so easy, is it not?—let me greet thee, friend "NEWMARKET." Although I shall be compelled to differ from you, pick holes in your words, &c., yet is there much between us, friend! Thou likest "our Journal," so do I. Thou readest it, so do I. Thou writest in it—well, I will not continue the similarity, but as all pugilists, before they exchange with each other those very striking interchanges of civility which disfigure the human form divine, first shake hands, so will I now with thee, friend "NEWMARKET."

Oh! but thou hast riled me, friend! I can hardly believe our worthy chaplain, "WILTSHIRE RECTOR," would have patted thee so encouragingly on the back about the "Standard" had he foreseen what "To be continued" really meant. Why, he, gentle soul, can discover some beauty in almost every form of nature, whether fish, flesh, or fowl; but if, as I understand, the remarks in "our" issue of October 16th are thine own thoughts, how sadly deficient must be thine eye, friend "NEWMARKET!"

Dorkings, *non-ornamental*! Nay, how can I write it? What is it? The retailer of scandal is as bad as the maker! Forgive me, then, Dorkings, but ye are ugly, heavy, and clumsy! and your "flesh insipid!"

Spanish possess "no great beauty." Listen, ye Spanish Hidalgos; if your blood was not "blue" before, surely this will make it so. Ah! I have it. Read this to the young Spanish chickens before they show their white faces, it will give them that blue tinge which every Spanish-breeder looks for early in the face, as the best sign of future excellence. Poor Spaniards! what a blow to your aristocratic feelings—no great beauty!

Then Cochins and Brahmas, what have ye done? "Large"—oh! that mine may always have this fault—"awkward, clumsy, ugly, heavy" birds!

Well, "NEWMARKET," the first and the last, yes, thou art right; but oh, dear! how many I am glad to say do not see them with thine eyes. "Quite unfit for table, being coarse and yellow-fleshed." Well, I suppose I am easily satisfied. What a comfort!

Hamburgs I had better leave "WILTSHIRE RECTOR" to do battle for; but they are "not ornamental."

Malays are a sore point, and I must leave it for a future time, as there are one or two points in this breed that I intend to notice; but as my best Malay cock has died this day, perhaps stabbed by "NEWMARKET's" words, I pass over their description at present.

Geese and Turkeys, what can you expect? the ugliest of all poultry! I think a lady friend of mine, "NEWMARKET," will remember thy words *in re* Turkeys. I can only say I sympathise with thee, because, if really thou canst see no beauty in these various breeds, how much thou must lose in the way of pleasure!

And now a word on the Ornamentals. Game, yes, to be sure, game evidently to the back-bone, no mistake about that; a true lover of them, knows all about their fighting properties too—"the best layers of all." Well, I think I must demur to that; but the "Standard" has evidently something to learn about them, for I do not doubt that "NEWMARKET" is correct, for he loves them, and has studied them. Red Duns "won first prize at Sheffield in 1857." Ah! but did they get it? There's the rub! One year at Sheffield, but I forget which, I

dunned and dunned for prize-money awarded to me; but in the end I was done. I wonder if the "Red Duns" were done too!

Polish, handsome and "prolific." I will not say positively, but I believe the latter to be rather mythical. I have been a Polish breeder many years, and I should never consider them first-rate layers. I believe that the most successful breeder of the day is of the same opinion. They certainly have the credit of being prolific. Much as I like them, I do not think they deserve it—"they possess great beauty, being crested." Houdans and Crève Cœurs are "crested" too. There is some hope for them, then, for poultry, love, and beauty do not always take us by storm at first sight. May their case with me not be like that of many a wife, who refuses over and over again the man whom she ultimately marries, and then declares that a better creature never lived? And so, perhaps, some day I may learn to admire even these forms of our feathered friends, but not yet; though crested, they have horns! Perhaps it is because I have been a Polish lover for years, therefore intent on breeding out horns; then comes a crested bird with horns, and such a pair! No, I cannot yet; but, perhaps, like some of our lady friends, I may learn to. But, seriously, surely Polish are not ornamental, simply because crested? The contrast of colours in the White-crested Black, and the markings of the Silver and Golden-spangled surely entitle them to be called ornamental.

Perhaps, after all, it is my mistake, and "NEWMARKET" may mean something else by what he says, and then the character he has given to several favourite breeds would not be what we understand by the words. We do not all call the same things by the same names, especially in this country, and perhaps we are all of us disposed to think that our version must be correct. It reminds me of a story I will relate. Friday is not behindhand in his own estimation; he can neither read nor write, talks Zummerset that requires the strictest attention to understand, and calls my Malays, *Miss Allays*, Brahmas, *Brahmas*, and buckwheat, *Dutch wheat*, &c.; still he "do fancy that he knows considerably more than a thing or two." Perhaps the old man is right, and if bought at our price and sold again at his own, a handsome fortune might be realised. However, a clever fellow came from another part of the country to work with him. Very naturally, the two clever fellows did not get on very well together. A few days after the new arrival was duly established he was asked his opinion of the country and the people. The former was satisfactory enough; but he evidently had not formed any exalted ideas of the inhabitants, and he wound up his opinion by stating that they were ignorant, illiterate, and did not even know how to speak properly, giving Friday as a case in point. Now, as our new friend had a peculiar jargon of his own, we were somewhat tickled and anxious to discover where Friday so transgressed. The reply was, "Why, he says *thuc*." "Well, what ought he to say, then?" "Why," he replied, "thuc, to be sure!" The *dénouement* was perfect! Can it be that while "NEWMARKET" says *thuc* of certain breeds, he all the time means "*thic*!" In any case, friend "NEWMARKET," pardon me. I love my feathered friends so much I cannot rest contented without lifting up my poor voice against the epithets thou hast used.—Y. B. A. Z.

UTILITY VERSUS HIGH BREEDING.

I am inclined to believe that there is some danger of weakening our poultry in the effort to produce perfection in certain "points" of presumed excellence in certain breeds. I would instance Spanish poultry, with which I am conversant. My own Spanish poultry are very fine birds in size, in plumage, in egg-laying qualities, but they do not come quite up to the mark in respect to the breadth of white about the eyes—not that they come far short in this respect. Also the cock, a very handsome fellow (the sole survivor out of a hatching of eggs from Mr. Baily, of Mount Street, which only produced two cocks), has not a perfectly erect comb.

Aware of these defects in my birds, I paid a visit to the yards of a well-known breeder of Spanish fowls in my neighbourhood, and a very successful prizetaker too. There I was struck, indeed, with the superiority of the points in which my birds are defective, but I was also surprised to find that in all other respects my own birds were fully equal or much superior. They are larger birds, and lay larger eggs and a greater number of them.

Now, I infer that my Spanish birds have some slight cross,

probably with the Andalusians or Minorcas, and to the introduction of fresh blood I am inclined to attribute the superiority of my fowls—"superiority" I say, for after all for what are Spanish poultry chiefly famous but for laying plenty of large eggs? I think size and weight of birds too are no disqualification, as my Spanish poultry are good table fowls.—B. & W.

WOLVERHAMPTON POULTRY AND PIGEON SHOW.

THE greatest credit is due to the Wolverhampton Committee for the excellent arrangements that were carried out at their first Show, held in the Agricultural Hall on the 22nd and 23rd of this month. Most of the Committee were exhibitors of long standing, well acquainted with all the requirements of a poultry show, and were determined that neither personal trouble nor expense should be spared to attain success, and they certainly had their reward in presenting to the public one of the best collections of one-year-old birds on record. We may truly say, not only was there not a bad class, but we may go even further, as scarcely an indifferent pen was to be seen. The weather was, unfortunately, as unpropitious as could well be imagined, there being an unceasing drenching rain on the Monday from the break of day until the time of closing in the evening. The Tuesday, we are glad to state, was a comparatively fine day, and the attendance was quite as large as could be desired. Had the weather been fine at the outset, no doubt the financial statement would have been greatly improved; but with every drawback of heavy, continuous rain, we rejoice to say that it is intended to carry out this Exhibition annually, and under so liberal, courteous, and persevering a Committee, no doubt can exist of Wolverhampton offering in a few years a poultry show but little if at all inferior to the most noted in the kingdom.

The Wolverhampton Agricultural Hall is admirably adapted for the purpose, and its extent is so great, that a very large show of poultry and Pigeons could be easily arranged for with but very little deterioration as regards the light afforded to the pens, and without making any diminution in their size. The latter is a fault, unfortunately, which the committees of some of our poultry shows are committing, and which must eventually be a subject of regret, as owners of really valuable birds are prevented from exposing them to long confinement in a space so limited. Exhibitors are now fully aware that freedom of locomotion is indispensable to the denizens of every exhibition pen, and that the longer the time the birds are confined, the more indispensable is a sufficient amount of room, because, after a certain limit, every day tells with far-increasing severity on the sufferings of the poultry confined. We must refer our readers to the prize list that follows for a just appreciation of the excellence of this Show. It will be seen that scarcely a principal yard could be named that was not competing at Wolverhampton; and without doubt those amateurs who neglected to visit this Show failed in obtaining a personal treat that rarely occurs, as the competition was excellent in almost every class—so much so, that, beyond dispute, the competitions of the coming season will prove unusually severe; and keeping such specimens as the Wolverhampton ones in perfect condition will be all-important as regards the future successes of chickens which rival each other so closely.

The competition in the Grey Dorkings, Spanish, Buff and White Cochins was without precedent so far as quality is concerned in a chicken show; and although in some few classes just named we noted that several hens were exhibited as pullets and very properly passed by, the generality were honestly shown. One pen was removed by order of the Committee, being in a very diseased state, and consequently quite inadmissible in common justice to other competitors. Another pen of fowls was disqualified by the Judge, as stated on the card on the pen, in consequence of the cock's hocks having been very extensively, though judiciously, trimmed. It is a pity that amateurs should resort to practices like these, as when discovered they are as disagreeable to the exposed exhibitor as to the Arbitrators, who, as a matter of justice, must do their duty alike unflinchingly to every one.

The Pigeons were most meritorious, and were much admired by the visitors. All classes were undoubtedly good; but no unknown variety was shown in response to a liberal "variety class."

CHICKENS.

DORKINGS.—First and Cup, D. C. Campbell, M.D., Brentwood, Essex. Second, Mrs. Bailey, Shooter's Hill, London. Third, A. Fenton, Crimble Hall, Rochdale. Highly Commended, Rev. E. Cadogan, Walton Parsonage, Warwick. Commended, Duke of Newcastle, Clumber, Notts; F. W. Zurborst, Donnybrook, Dublin; J. Anderson, Meigle, N.B.

SPANISH.—First and Cup, E. T. Holden, Walsall. Second, T. Cliff, Hanley. Third, J. Beach, Dudley. Highly Commended, R. P. Williams, Glaslawn, Clontarf, Dublin; T. Ace, Ystalyfera, near Swansea; G. Lamb, Compton, Wolverhampton; H. Hobson, Walsall.

COCHIN-CHINA (White).—Cup, First, and Second, G. Lamb. Third, J. Gardiner, Bristol. Highly Commended, F. W. Zurborst; Rev. F. Taylor, Keastwick, Kirkby Lonsdale; H. Yardley, Birmingham. Commended, H. Yardley.

COCHIN-CHINA (Partridge).—Cup, First, Second, and Third, E. Tadmam, Ash Grove, Whitechurch, Salop.

COCHIN-CHINA (Ginamon and Buff).—Cup and First, H. Tomlinson, Balsall Heath Road, Birmingham. Second, A. Fenton. Third, H. Mapplebeck, Woodfield, Moseley, Birmingham. Highly Commended,

Duke of Newcastle; Hon. Mrs. Sugden, Nantwich; T. B. Charlton, Chellwell Hall, Notts; H. Bates, Birmingham.

HAMBURGERS (Gold-spangled).—Cup and First, J. Roe, Hadfield, near Manchester. Second, Messrs. S. & R. Ashton, Mottam, near Manchester. Third, W. Horton, Albrighton. Highly Commended, T. May, Wolverhampton.

HAMBURGERS (Silver-spangled).—First, W. Canna, Bradford. Second, J. Fielding, Newchurch, near Manchester. Third, Rev. F. Tearle, Newmarket. Highly Commended, G. Bradford, Hanley; J. Walker, Knarborough; Mrs. Hurt, Alderwasley, Derby.

HAMBURGERS (Gold and Silver-pencilled).—First, J. Walker. Second, W. Canna. Third, F. D. Mort, Stafford.

POLISH.—First and Second, G. C. Adkins, The Lightwoods, near Birmingham. Third, W. S. Norfolk, Sheffield.

GAUS (Black and Brown-breasted Reds).—Cup and First, J. Fletcher, Stoneclough, near Manchester. Second, J. Halsall, Ince, near Wigan. Third, G. Wostenholm, Sheffield. Highly Commended, E. Vaughan, Merriale Lane, Wolverhampton; A. B. Dyas, Madeley, Salop; E. C. Gilbert, Brockridge. Commended, Duke of Newcastle.

GAUS (Duckwing and other Greys and Blues).—First, J. Fletcher. Second and Third, W. Horton. Highly Commended, E. C. Gilbert.

GAUS (Any other variety).—First, A. O. Worthington, Burton-on-Trent (Black). Second, J. Fletcher (Blue).

GAUS BANTAMS.—First, G. E. Davies, Knutsford. Second, R. Charlesworth, Brook's Bar, near Manchester. Third, Master J. H. Stephens, Walsall. Highly Commended, H. Hobson, Walsall. Commended, Hon. H. W. Fitzwilliam, Wentworth-Woodhouse, Rotherham; Master J. H. Stephens.

BANTAMS (Any variety except Game).—First, T. C. Harrison, Beverley Road, Hull. Second, E. Cambridge, Stokes Croft Road, Bristol (Black). Third, Messrs. S. & R. Ashton. Highly Commended, H. Draycott, Humberstone, near Leicester (White); Rev. F. Tearle (White).

ANY OTHER DISTINCT VARIETY.—First, The National Poultry Company, Bromley, Kent (Houdan). Second, Rev. A. G. Brooke, Bayton XI Towns, Salop (Malay). Third, J. Morris, Elmstead, Wolverhampton (Negro Fowl). Highly Commended, The National Poultry Company (Orville Ouzur); Mrs. Bly, Worcester (Andalusian); Col. S. Wortley, London (Houdan). Commended, Hon. H. W. Fitzwilliam (Orville Ouzur); Mrs. M. Seamons, Hatfield, Aylesbury (Brahma Pouter); J. H. Pickles, Bridge Road, Todmorden (Dark Brahma).

SELLING CLASS (Any variety).—First, G. Lamb (Black Spanish). Second, E. Shaw, Plas Wilmot, Oswestry (Black Spanish). Third, R. P. Williams (Crested Silver-spangled). Highly Commended, Rev. A. G. Brooks (Cochin-China); W. Horton (Gold-spangled); E. Brown, St. Phillip's Road, Sheffield (Spanish). Commended, E. Shaw; W. Johnson, Eslington, near Wolverhampton; Mrs. Bailey (Dark Brahma); W. Horton (Black Red); A. B. Dyas (Game); H. Tomlinson (Buff Cochins); T. Lowe, Trysull (Ducks).

TURKEYS.—Poults.—First and Second, F. E. Richardson, Bramshall, Uttoreter. Highly Commended, The Countess of Dartmouth, Wolverhampton; E. Leech, Rochdale.

GESE.—Goslings.—First, S. H. Stott, Rochdale. Second, Mrs. M. Seamons. Highly Commended, A. Fenton; Mrs. M. Seamons. Commended, Mrs. P. Wolferstan, Tamworth.

DUCKS (Aylesbury).—First and Second, Mrs. M. Seamons. Highly Commended, E. Leech; A. Fenton; Mrs. M. Seamons.

DUCKS (Rouen).—First, E. Leech. Second, R. P. Williams. Highly Commended, J. Anderson, Meigle, N.B. Commended, A. Fenton.

DUCKS (Any other variety).—First, J. Morris (Carolina). Second, R. P. Williams (Ruddy Shelducks). Highly Commended, A. Fenton (Black East Indian); Mrs. P. Wolferstan (Black East Indian).

PIGEONS.

TUMBLERS.—First and Second, J. Ford, London. Highly Commended, J. Percivall, Harborne, Birmingham; J. Fielding, jun., Rochdale.

CARRIERS.—First, H. Yardley. Second, R. E. Artindale, West Derby, Liverpool. Highly Commended, A. E. Griffin, Wolverhampton; H. Yardley.

POWERS.—First and Second, H. Yardley. Highly Commended, R. Chase, Balsall Heath, Birmingham; J. Butler, Ystalyfera, Swansea.

PANTAILS.—First and Second, H. Yardley. Highly Commended, W. Choyce, Nibson, near Atherstone, Warwickshire.

ANTWERPS.—First, Mrs. E. Hunter, Wolverhampton. Second, H. Yardley. Highly Commended, H. Yardley. Commended, C. Barnes, Birmingham; H. Yardley.

RUNNERS.—First and Second, H. Yardley. Highly Commended, The National Poultry Company.

DRAGONS.—First, J. Percivall. Second, J. Percivall. Highly Commended, H. Yardley.

ANY OTHER VARIETY.—First, Joshua Fielding, jun. (Blue Owls). Second, John Fielding, jun. (White Owls). Third, H. Yardley. Highly Commended, H. Yardley; J. Percivall, London (Isabells); B. Leeson, Driffield, Yorkshire (Nuns). Commended, H. Vaughan, Wolverhampton (Yellow Jacobias); H. Severs, Middlesborough (Trumpeters); H. Yardley.

Edward Hewitt, Esq., of Eden Cottage, Sparkbrook, was the sole Arbitrator.

SOUTHAMPTON POULTRY AND PIGEON SHOW.

THE Carlton Rooms at Southampton form a most commodious place of exhibition, and as such are not often surpassed in any town in the kingdom. On the present occasion the whole building was most profusely ornamented by a display of flags of all nations, that added much to the general appearance of the Exhibition. The Show was carried out with as perfect a system of arrangements as its predecessors under the same management. In short, there was not anything of which to complain. On entering the Show, a very large collection of living foreign birds was found to occupy the centre, and there was a display of different varieties of Pheasants, which added much to the general attraction; beyond these, in the orchestra, were the Pigeons in large numbers, and of the best strains in the kingdom;

and last, though not least, the poultry found ample accommodation around the whole central space of the Exhibition-room. The whole had the most pleasing effect, and judging from the statements of visitors, the public support was again fully insured.

The *Spanish* class was remarkably good, Mr. Rodbard taking precedence. In *Grey Dorkings*, we find Mr. T. P. Edwards, of Lyndhurst, taking the prize of highest merit. Although for many years past this gentleman's *Polands* have stood A1 at most of our exhibitions (as also on the present occasion), we were unprepared to find his attention turned to Dorkings. Most strange to say, though the day before the class of *Buff Cochins* at the Wolverhampton Show was so good, not a single entry was made in this class at Southampton! The *Brahmas*, both Dark and Light-feathered, were very good, though we regretted to find that several pens were wrongly entered, and, consequently, thrown out. Every exhibitor should well consult the prize schedule before entering, especially where separate classes for colour are appointed, as any birds entered wrongly cannot compete. The *Game* were good, and the *Hamburghs* mostly of first-rate excellence. Mr. Pittis, of the Isle of Wight, took the silver cup for the best pen of poultry in the whole Exhibition with a first-rate pen of Pencilled *Hamburghs*, than which the most fault-finding person could scarcely hope for better. The silver cup for the best single cock in the Exhibition was secured by a very excellent *Spanish* cock belonging to Mr. Rodbard. The Variety classes were well filled with *Houdans*, *La Flèche*, *Crève Cœur*, and *Malays*, besides an abundant proportion of *Silbies*, *Andalusians*, and various other breeds. Mr. Kelleway, of the Isle of Wight, exhibited some of his *Game* Black Red *Bantams* of great beauty.

In a very extensive collection of foreign and British Pheasants, one bird was peculiarly worthy of a passing notice. It was a Silver hen Chinese Pheasant that had in the course of a couple of years entirely assumed the male's plumage. She had for two years previously to this change of feather laid and bred equally well with other hens confined with her, but after the change of plumage, of course, proved sterile. As a great oddity, she did not lack admirers.

The *Pigeons* proved by far the best collection of birds of this kind ever brought together at Southampton.

The foreign birds were a very popular portion of the Exhibition, and the *Lories* especially deserve most favourable mention for their beauty of plumage; and not a few of the *Parrots* were exceedingly amusing by their continuous and incongruous talking to visitors. Mr. Phillip Warren, the truly indefatigable Honorary Secretary, did all that any one could do to insure success. The weather being favourable, the attendance of visitors was good.

SPANISH.—First, J. R. Rodbard, Writington, Bristol. Second, W. H. Walker, Brentwood, Essex. Third, Rev. J. de L. Simmonds, Chilcomb, Winchester.

DORKING.—First, T. P. Edwards, Lyndhurst. Second, W. H. Walker. Third, J. C. Phair, Southsea. Highly Commended, B. P. Brent, Parkhurst, Buxted, near Uckfield; Dr. Menhew, Lyndhurst.

COCHIN-CHINA (Any variety).—First, J. R. Rodbard (Partridge). Second, Mrs. H. Pigeon, Hythe, near Southampton (Partridge). Third, H. Loe, Appuldurcomb, I.W. (White).

BRAHMA POOTRA (Dark).—First, Rev. J. Ellis, Bracknell, Berks. Second, J. Hinton, Hinton, near Bath. Third, Rev. R. Parker, Fareham. Highly Commended, J. Johnson. Commended, E. Pigeon, Lymington, near Exeter.

BRAHMA POOTRA (Light).—First, H. Dowsett, Pleshy, near Chelmsford. Second, Miss Hayes, Reading. Third, Messrs. R. & E. Ede, Worthing. Highly Commended, J. Pares, Guildford; Messrs. R. & E. Ede.

GAME (Black and Brown Red).—First, J. W. Harrison, Spalding. Second, F. Pittis, jun., Newport, I.W. Third, W. W. Pyne, South Lancing, Sussex. Highly Commended, W. W. Pyne.

GAME (Any other variety).—First and Second, W. W. Pyne (Duckwing). Third, Sir J. R. Carnac, Hordle Cliff, Lymington.

HAMBURGH (Silver and Gold-pencilled).—Cup, First, and Third, F. Pittis, jun. Second, N. Barter, Plymouth. Highly Commended, A. Woods, Sefton, near Liverpool.

HAMBURGH (Silver and Gold-pencilled).—First, A. Woods. Second, N. Barter. Third, R. C. Hankinson, Southampton.

POLAND.—First and Second, T. P. Edwards, Lyndhurst. Third, Mrs. Pettat, Micheldever Station, Hants.

ANY OTHER DISTINCT VARIETY.—First, Col. S. Wortley, London (*Crève Cœur*). Second, M. A. Wyllie, East Moulsey (*La Flèche*). Third, C. Cole, Fareham (*Blue Andalusian*). Highly Commended, Rev. D. B. Biny, Millbrook, Southampton (*Crève Cœur*); Rev. J. P. Bartlett, Southampton. Commended, J. C. Phair (*Crève Cœur*); Col. S. Wortley (*La Flèche*); Mrs. Brandon.

BANTAM (Game).—First and Second, J. W. Kelleway, Isle of Wight. Third, G. Saunders, North Wallington, Fareham. Highly Commended, J. W. Kelleway. Commended, Miss Webber, Southampton; Dr. Welch, Southampton; J. C. Phair; G. Manning, Springfield.

BANTAM (Any other variety).—First, E. Cambridge, Bristol (*Black*). Second, Mrs. Pettat (*Silver-laced*). Third, E. Pigeon (*Japanese*). Highly Commended, E. Hoare, Bitterne, Southampton; H. M. Maynard, Holme-wood, Ryde, I. of W.

SINGLE COCKS.

GAME (Any variety).—First, F. Pittis, jun. (*Black Red*). Second, W. W. Pyne (*Brown Red*).

DORKINGS (Any variety).—First, T. P. Edwards (*White*). Second, T. Anderson, Weymouth (*White*). Commended, F. Pittis, jun.

SPANISH.—First, J. R. Rodbard. Second, Rev. J. de L. Simmonds.

HAMBURGH (Any variety).—Prize, F. Pittis, jun. (*Gold-pencilled*).

ANY OTHER DISTINCT VARIETY EXCEPT BANTAMS.—First, J. R. Rodbard (*Partridge Cochins*). Second, H. M. Maynard (*Crève Cœur*). Third, E. Pigeon (*Brahma*). Highly Commended, T. Davis; G. Hill, Winchester (*Brahma* and *Buff Cochins*). Commended, P. Crowley, Alton (*Light Brahmas*).

BANTAM (Any variety).—First, J. W. Kelleway. Second, Dr. Welch (*Sebright*). Highly Commended, Miss Cooper, Northwood, Lyndhurst (*Game*); H. Pigeon, jun., Hythe, near Southampton (*Game*); J. A. Gordon, Penge; G. Manning (*Black Red Game*). Commended, E. Pigeon (*Japanese*).

DUCKS (Aylesbury).—First, H. Loe. Second, F. Cresswell, Harnworth, Thirsk, A. Puckridge, London.

DUCKS (Any other variety).—First, S. Stotts, Rochdale (Bouen). Second, H. Hoare (Muscovy). Third, J. C. Phair (Pied).

GESE.—Prize, Lady M. Macdonald, Liphook, Hants (Toulouse).

TURKEYS.—First, S. Lang, jun., Barrow Gurney, near Bristol. Second and Third, Lady M. Macdonald. Highly Commended, B. P. Brent.

PHASANTS (Gold and Silver).—First and Second, Mrs. E. Harrison, Polygon, Southampton. Third, Mrs. Brandon.

PHASANTS (Any variety).—First, Second, Third, Very Highly Commended, and Highly Commended, J. W. Fleming, Southampton (Common Pheasant, Chinese Ringneck, Cross between Chinese and Common Japanese, Cross between Common and Japanese, Cross between Japan and Chinese).

PIGEONS.

POWTERS.—First and Second, H. Yardley, Birmingham.

TUMBLERS.—First, J. Ford, Monkwell Street, London. Second, F. Waitt, Sparkbrook, Birmingham. Highly Commended, J. Ford; Capt. Paley, Lytchett Matravers, Poole. Commended, C. Beauclerk, Abere Bar, Southampton; Capt. Paley.

BARBS.—First, F. Waitt. Second, J. W. Harrison. Highly Commended, H. Yardley. Commended, St. J. Coventry, Wimborne, Dorset.

JACOBIANS.—First, H. Yardley. Second, G. Hill. Highly Commended, F. Waitt. Commended, H. M. Maynard; H. Yardley; G. Hill.

FANTAILS.—First, H. Yardley. Second, C. Beauclerk. Highly Commended, H. M. Maynard; H. Yardley; C. Beauclerk.

OWLS.—First, F. Waitt. Second, S. A. Wyllie. Highly Commended, St. J. Coventry; J. Percival, Peckham Rye, London; F. Hodding, Salisbury. Commended, H. Yardley.

TURBITS.—First, C. Beauclerk. Second, F. Waitt. Highly Commended, H. Yardley.

CARRIERS.—First, S. Harding, Fareham. Second, J. C. Ord, Pimlico, London. Highly Commended, H. Yardley; S. Harding. Commended, J. C. Ord.

NUNS.—First and Second, H. Yardley. Commended, S. Percival.

ANY OTHER DISTINCT VARIETY.—Equal First, F. Pittis, jun. (Swiss); H. Yardley. Equal Second, E. Pigeon (Dragons); E. Wright, Above Bar, Southampton (Antwerp). Equal Third, E. Pigeon (Dragons); H. Yardley. Highly Commended, St. J. Coventry (Trumpeters); F. Pittis, jun. (Magpies); F. Waitt (Swallows and Beards); F. Broemel, Ladywell, Kent (Runts); S. A. Wyllie (Silver-spangled Runts); C. Beauclerk (Blue Magpies, Muscats, Red Archangels); H. C. Dear, Millbrook, Southampton (Smerles). Commended, B. P. Brent (Russian Trumpeters); H. Vine, Cowes, I. of W. (Archangels and Trumpeters); H. Pigeon, jun. (Trumpeters); H. Yardley; F. Waitt (Lahores, Magpies, Trumpeters).

CANARIES.

NORWICH (Clear Yellow).—First and Second, E. Orme. Extra Second and Third, W. Walter, Winchester. Very Highly Commended, G. J. Collinson, Norwich; J. Bexson, Derby; J. Judd, Newington Butts. Highly Commended, G. Cummings, Gloucester; G. J. Collinson; W. Barnes; H. Beaton, Derby; O. Nicholson, Landport; J. Judd; F. W. Fairbrass, Canterbury. Commended, W. D'Eiboux, Southampton; S. Tomes, Northampton; W. T. Wright, Portsmouth, Southampton.

NORWICH (Clear Buff).—First, E. Orme. Second, J. Bexson. Extra Second and Third, W. Walter. Very Highly Commended, G. J. Collinson; J. Bexson; J. Bennett, Derby. Highly Commended, G. Moore, Northampton; J. Judd. Commended, G. Cummings; G. J. Collinson; T. Smith; W. Barnes; S. Tomes; J. Bennett; W. Phillips, Old Basford. **NORWICH (Marked or Variegated Yellow).**—First, Second, and Third, G. J. Collinson. Very Highly Commended, W. Walter; E. Orme; G. J. Barnesby, Derby. Highly Commended, G. J. Collinson; G. Butler, Fareham. Commended, H. Vine; W. Wright.

NORWICH (Marked or Variegated Buff).—First, W. Wilkinson, Derby. Second, G. J. Collinson. Very Highly Commended, G. J. Collinson. Highly Commended, W. Walter; E. Orme. Commended, G. Cummings; J. Bennett; A. Woodgate.

BELGIAN (Clear Yellow).—First, O. Nicholson. Second, H. Vine. Very Highly Commended, H. Vine; O. Nicholson. Highly Commended, T. Smith; T. Moore. Commended, G. Harding.

BELGIAN (Clear Buff).—First, O. Nicholson. Second, T. Smith. Very Highly Commended, A. Young, Southampton; W. Inson, Redlands, Bristol. Highly Commended, O. Nicholson.

BELGIAN (Variegated or Marked Yellow).—First, W. Phillips. Second, O. Nicholson. Very Highly Commended, O. Nicholson. Commended, J. Arnold, Southampton.

BELGIAN (Variegated or Marked Buff).—First, W. Phillips. Second, W. Inson. Very Highly Commended, R. J. Troake, Bristol; O. Nicholson.

LIZARD (Golden-spangled).—First, V. Ward. Second, G. Harding. Very Highly Commended, J. Lingard; F. W. Fairbrass; T. Fairbrass; G. Harrison. Highly Commended, F. W. Fairbrass; G. Harrison.

LIZARD (Silver-spangled).—First, T. Smith. Second, H. Ashton. Very Highly Commended, F. W. Fairbrass; Rev. V. Ward, Canterbury. Highly Commended, G. Harding; W. Phillips; Rev. V. Ward.

MULE (Jonque Goldfinch).—First, H. Ashton. Second, E. Cole. Highly Commended, H. Ashton.

MULE (Mealy Goldfinch).—First, W. Walters. Second, H. Ashton. Very Highly Commended, H. Ashton. Highly Commended, W. Grant. Commended, J. Prince, Lymington; C. F. Johnson, London.

MULE (Linnat).—First, W. Walker. Second, J. Judd. Very Highly Commended, H. Ashton; W. Heap.

CANARY OR MULES (Any variety).—First, J. Judd; Second, G. J. Collinson. Extra Second, W. Heap. Third, C. F. Johnson. Very Highly Commended, Mrs. Shipp, Blandford; H. Vine. Highly Commended, G. J. Collinson; J. C. Phair.

BULLFINCH.—Prize, H. Vine. Very Highly Commended, G. Cluett, Southampton; J. Mitchell, Southampton. Highly Commended E. Hodgkinson, Derby; W. Walter.

GOLDFINCH.—Prize, W. Walker. Commended, C. T. Bell, Southampton.

LINNET.—Prize, S. Reynolds, Derby. Very Highly Commended, E. Croisdale, Woolwich. Highly Commended, H. Vine; — Colbourne.

SKYLARKS.—Prize, W. Walter. Very Highly Commended, J. Judd.
WOODLARK.—Prize, R. Noyce, Southampton. Very Highly Commended, W. Walter.

BLACKBIRD.—Prize, H. Vine.
SONG THRUSH.—Prize, W. Walter. Very Highly Commended, H. Vine;
G. Green, Southampton; R. Bird, Southampton.
SISKIN OR ABBEDVINE.—Prize, H. Vine. Highly Commended, W. Walter.

ANY DESERVING VARIETY.—First, T. Alderton, Woolwich. Second, O. F. Johnson. Third, H. Browning, Southampton. Very Highly Commended, T. Alderton; O. F. Johnson. Highly Commended, O. Bacchus. Commended, R. W. Cross, Newport, I.W.; W. Walter.

COCKATOO (Any variety).—First, C. T. Bell. Second, E. Harrison. Very Highly Commended, A. Isaacs, Leicester Square. Highly Commended, J. C. Winn, Southampton; A. Isaacs.

PARROT (Any variety).—First, Miss Bull, Southampton. Extra First, A. Cantwell, Southampton. Very Highly Commended, Capt. O'Shea. Highly Commended, W. Walters; W. H. Squibb.

LORIES (Any variety).—First, W. Walter. Second, J. Judd. Third, A. Isaacs. Highly Commended, S. Jones; A. Isaacs.

LOVE BIRDS (In pairs).—Prize, J. Judd. Very Highly Commended, A. Isaacs.

PARAKEETS (Any variety).—First, J. Judd. Second, G. Waits. Extra Second, J. C. Winn. Very Highly Commended, G. Billett, Southampton. Highly Commended, A. Isaacs; G. Billett. Commended, W. Walter.

JAVA SPARROWS (In pairs).—Prize, H. Vine. Highly Commended, W. Walter. Commended, J. Judd.

WIDAL BIRD.—Prize, G. H. Groombridge. Very Highly Commended, W. Walter; Mrs. Bailey.

CARDINALS.—Prize, Mrs. Bailey. Commended, J. C. Winn.

BIRDS.—Prize, J. Judd.

WAXBILLS (Any variety, in pairs).—Prize, J. Judd. Highly Commended, G. Billett. Commended, A. Isaacs; Mrs. Bailey.

FOREIGN BIRDS (Any variety).—First, W. Walter. Second, A. Isaacs. Third, J. C. Winn. Highly Commended, A. Isaacs; G. H. Groombridge. Commended, J. Judd.

EXTRA STOCK.

Commended, C. Colenutt, Ryde, Isle of Wight (Light Brahmas); Rev. J. P. Bartlett (Crève Cœur Pullets); G. Warren, Southampton (Geese).
PHEASANTS.—Commended, G. Beauchamp, Above Bar, Southampton (Tumblers; Yellow Bantams); K. Wright (Jacobins).

E. Hewitt, Esq., judged the poultry and Pigeons; and the same duty as to Pheasants and foreign birds devolved on, W. Goodwin and A. Willmore, Esqs., of London.

THE EGYPTIAN BEE.

I AM sure that I only express the sentiments of scientific apirians in general, and of the bee-loving readers of this Journal in particular, when I say that we all owe Mr. Woodbury a debt of gratitude for the successful efforts which he has made in importing from other countries, and thus bringing us into personal acquaintance with, two of the most interesting varieties of the genus *Apis*: *Apis ligustica* being imported into England from Switzerland in the autumn of 1859, and *Apis fasciata* from Germany, in July, 1865.

These are important events in apiculture, and while they show an amount of enthusiasm, energy, and enterprise hitherto unsurpassed by any apirian in this country, they are alone sufficient, I think, to immortalise the name of "A DEVONSHIRE BEE-KEEPER," and deservedly secure for him a permanent niche in the apirian "Temple of Fame."

In the spring of 1860 I had the pleasure, I believe, of first announcing in Scotland, by a newspaper paragraph, the introduction into England of *Apis ligustica*; and in 1866, by a strange coincidence, I have been privileged to introduce the first *Apis fasciata* into ancient Caledonia, and the first imported Egyptian queen, after a short sojourn in Exeter, to the far-north demizens of modern Athens.

To the very interesting series of articles on *Apis fasciata* which have appeared in this Journal, it may appear a work of supererogation for me to add anything. A wish having been expressed, however, to this effect, I am very happy to comply with it, although from my limited experience I can as yet form no decided opinion as to its real value either as a swarming or a honey-gathering bee—two points as to which many, no doubt, will be desirous of information.

Upon the 22nd of May last, a communication was sent to me from Mr. Woodbury, to the effect, that as he could not attend to the propagation of both the Egyptians and Italians, and as the former turned out decidedly more irascible than the latter, he had made up his mind to "stick to his old love," and accordingly offered the stock to me. This communication, I confess, took me somewhat by surprise, and I was struck with the strange resolve. What can be the matter? "Decidedly more irascible." A rather ominous character, no doubt. But *Apis mellifica* has been described as more irascible than *Apis ligustica*, and, therefore, *Apis fasciata* might, I thought, just be on a par in this respect with the former. Besides, Dr. A. Gerstäcker describes *Apis fasciata* as "the most valuable form for Europe, partly on account of their beauty, and partly of their un-

willingness to use their stings, which is common to all African bees." I thought no more of the matter, therefore, and on the morning of the 7th of June the interesting foreigners arrived at my house, per rail from Exeter. With screwdriver and chisel in hand, I immediately went to work to set free the imprisoned captives, and to examine their condition, and undo the various fastenings; and then it was for the first time that the Egyptian, *alias* the Holy Land bee, appeared before me. I could not but admire its agile little form, with its light pubescence, and its distinctly-marked zebra-like abdominal bands of bronzy yellow and silvery white—well termed *Apis fasciata*. A few minutes' admiration over, I then proceeded with uncovered hands, as usual, to lift out the frames. Drawn lances glistened in hundreds, and for the first time I was wounded by an Egyptian. Thistles and thorns must be handled cautiously, however, and I proceeded to act accordingly. The immense number of drones adhering to each frame astonished me. A drone-breeding queen here, verily! What gaudy fellows to be sure, beautifully marked and banded—the Italians cannot compare with them—silvery white, and golden yellow—meet inhabitants truly of a tropical clime! But where is her Egyptian majesty? Oh, there she is, gay and graceful like her prototype Cleopatra of old, sparkling in all the radiance, and adorned with all the lustre of eastern royalty. Yes; safe and unscathed fortunately, amid the sad havoc among her female subjects, which now unveils itself, caused by a too crowded captivity during an extra long journey in the heat of summer. Prodigious havoc, truly. Full five thousand workers dead and dying lay piled above each other on the floor-board, a sad sight, and sadly to be regretted. Removing these, cleaning the interior, and putting all right, I replaced the frames, and transferred the colony forthwith to my apiary.

Four thousand of these dead bees I weighed, and found them only 84 ozs.; each thousand thus weighing over 2 ozs.

For some days after I placed the hive in my apiary little work was done, and I had reason to know subsequently that few eggs had been deposited. The loss of so great a number of bees operated as a great check, and partially paralysed both workers and queen. The drones, not one of which perished by the way, alone seemed to enjoy both the catastrophe and change, reeling each day at noon in thousands, choking the very entrance almost with their numbers, and making such a noise, as they danced about the hive, as literally to awe the inmates of neighbouring stocks. The loss of so many workers was, as I stated, a sore discouragement, and, consequently, some little time elapsed ere the colony recruited, and my plans regarding it were thus in some measure altered. All the combs, I was informed by Mr. Woodbury, were constructed either by *A. ligustica* or *A. mellifica*, so that the Egyptians reared in them were as yet abnormally large. It was my intention, therefore, to drive the bees, and use the combs for queen-rearing purposes. In this way the cells formed in the new domicile would approximate more nearly to the normal standard to which subsequent shiftings would ultimately bring them, "the cells of the Egyptian bees (according to Herr Vogel) being one-tenth narrower than the cells of our northern bee, so that ten Egyptian cells, including the partition walls, are equal in width to nine cells of our bees." The immense loss sustained in bees during the transit, however, caused me to alter my intentions, and I resolved simply to confine myself to the rearing of a few queens. Some interesting phenomena manifested themselves in the course of my proceedings, a narration of which, however, with other details, I must reserve for another communication.—J. Lowz.

In reply to Mr. Woodbury's challenge, I may say, like Canning's knife-grinder, "Story! Bless you, sir, I have none to tell!" Or, at least, it is only the echo of the story told by Mr. Woodbury himself, and which, after the manner of echoes, is sure to sound very feeble after the vigorous original.

However, on the 27th of last April I received a small box containing the population of one of Mr. Woodbury's hives, but too late to do anything with it that night. Early the next morning I furnished a five-frame box with two full combs of brood, and three empty combs, and then, placing the box over the opening in the top, I had the satisfaction of seeing the bees descend in a few minutes, and appear at the entrance, the satisfied murmur within showing that all was right. Indeed, within half an hour they were carrying out particles of broken comb, and were evidently setting their new house in order. They were so subdued by the journey, that the night before I thought them the gentlest and most docile little creatures to be found

anywhere. Nothing occurred to interfere with this opinion for some days, but they soon showed unusual keenness on being approached too closely. Meanwhile the rate at which they worked, and the masses of pollen they brought in, gave me the highest opinion of their value.

On the 24th of May the hive was opened to note progress. It was very populous, and the combs were completely filled with eggs and brood. I removed one comb to form a nucleus, intending, also, with the addition of other combs, to transfer the whole to a large hive; but this was reckoning without my host, for after the first few moments of consternation on the sudden removal of the top, the bees attacked me like ten thousand furies. Notwithstanding the smallness of the hive their number seemed countless, and their rage implacable. After inserting an empty comb in place of the one removed, and shutting hastily up, I beat a retreat, followed by a cloud of the little wretches, who would not be got rid of. It may be as well to state here, that the brood-comb, swept clear of bees, was immediately placed between two empty ones in a nucleus-box, and for the present placed on the stand of a populous black hive; but a number of Egyptians on the wing would not be denied the comb, and I was compelled to let them have their way. They settled upon it again and again, and took possession of the box. On my return home at night, things remained apparently in *statu quo*—that is to say, a hundred or two of bees were the sole tenants. It had been a fatal day, however, for this Spartan band had held their Thermopylae against a perfect array of blacks, who had, according to a maxim of modern warfare, been beaten in detail, and whose corpses covered the ground; an example, by the way, of the disadvantages of those bee-keepers who are compelled to be absent from home all the day.

Some readers will undoubtedly say that this is a very clumsy piece of work. So it was; so I thought it; but then—

Ye gentlemen of England, who live at home at ease,
Say what experience ye have had of these Egyptian bees.

Though you be encased in armour of proof, and to all appearance invulnerable, they will get at your wrists and neck; they bounce against your soft veil like peas shot out of a pop-gun, and it is odd, if they do not plant a mark on either nose or chin; they assail you by sap as well as by storm, and steal their way by twos and threes up the covered way of your trousers. You may walk, or run, or stand still, but they are not to be shaken off. They wait their chance with strange pertinacity. They persevere and calculate like sentient beings. If you shut yourself up in a dark outhouse, they will hover about outside for an extraordinary length of time, waiting for your re-appearance, just as the sheriff's officer waits to pounce upon the Hon. Seedie Flaah. Having at length effected your escape, it is only to find confusion reigning throughout the neighbourhood, dogs howling, foaming at the mouth, tugging at their chains, and literally half mad; men, women, and children alike severely stung, and all new systems of bee-keeping at a serious discount. Mr. Woodbury's picture is no exaggeration, and it was with a "satisfaction" not exactly "melancholy," that I heard of so distinguished a companion in misfortune.

It was, however, a matter of necessity to transfer the bees to a full-sized hive, and this was shortly accomplished, though at the cost of many stings to myself and my neighbours. They do not confine their attacks to the actual intruder, whoever he may be, but set off wildly in all directions, attacking every one they meet, and that not with the slow and well-considered anger of the burly black bee, who, moreover, gives fair warning, but with a swiftness of movement, and an uncontrollable fury that makes them appear to be things that are "nae canny." It is, however, to be remembered, that all hybrids are more vicious than pure breeds, and the pure Egyptian may be more manageable. Something may also be set down to the climate, which differs from their own in humidity, temperature, and, doubtless, in other important respects, and causing proportionable changes in pasture. One can hardly imagine that honey should be so abundant, and so easily taken throughout Syria, Egypt, and Palestine, if it is defended as these the nearest representatives defend their treasures here.

Nevertheless, I have formed the idea that the species is a valuable one to the practical apiarian, though, perhaps, the opinion is formed on too slender grounds. For the sake of my neighbours, I refrained from interfering with the stock in question until the 29th of June, when, seeing the hive full to overflowing, I put on a glass, rather with the intention of affording room than in the expectation of any store of honey so late in the season. The glass was furnished with a handsome piece

of worker comb, and the communication opened. The bees poured into it in a sort of jet, rather than the steady overflowing characteristic of the blacks. They whirled swiftly round and round, striking against the comb with such force that though supported by a stout splint run through its length, it almost immediately broke away. Next day, finding the glass empty, it was removed, and another substituted, well covered, as in the former case, to exclude the light—again, a rush of angry bees, but this time the comb was smaller and tougher, and it withstood the first assault. On examination the day following, the bees were hard at work, and two more glasses were put on. These three glasses were two-thirds filled with comb, or more, and one of them half filled with honey in the course of three weeks, though during that time scarcely any progress was made by my other stocks, the supply of honey being prematurely cut short.—F. H. WAST.

EXCHANGE OF QUEENS.

I AM glad to say that a Ligurian queen sent me by Mr. Woodbury has been successfully joined to a black stock, but at a heavy loss in population. I removed the black queen with the comb on which she was, on the Friday morning, and suspended the box containing the Ligurian queen within the hive. The commotion in about half an hour was extraordinary, the bees hanging out on the landing-board, and in front of the hive, as densely as if waiting to swarm. After several hours of vain search they fell into that depressed listless state which indicates despair, and numbers dropped on the ground, crawling about there, and, doubtless, perishing. This continued for three days, and was, doubtless, aggravated by there being no brood in the hive.—W.

BRISTOL POULTRY SHOW.—The Committee, we are informed, have established a guarantee fund against loss. The hall wherein will be the Exhibition, is a magnificent place, built for the Volunteers, and fully capable of holding 1500 pens. The Committee are said to be hard workers, and determined, if possible, to make the Show a success, not only as to support, but that there may be no complaints.

OUR LETTER BOX.

TO CORRESPONDENTS.—Many communications are necessarily postponed until next week.

WOODBIDGE POULTRY SHOW.—Some letters relative to this came too late for this week's Journal. One letter says—"A gentleman with whom I am acquainted sued the Secretary in the County Court, and was paid. Let your correspondent, Mr. Hose, and all others take the hint." Another letter says:—"It would be well after all that has come out, to state the names of those who acted as Stewards for the Show (there was no Committee), in your paper. Some exhibitors in the neighbourhood of Woodbridge are feeling that everything emanating from Woodbridge is alike condemned. I subjoin the list on their poultry catalogue for 1883:—Chairman of Committee, Mr. J. Wright. Vice-Chairman, Mr. G. Bannister. Stewards, W. Syson, Esq., Mr. F. Kent, Mr. G. Kemp, Mr. R. W. Allen. Honorary Secretary, Mr. J. Dallenger, Woodbridge."

INCUBATOR (C. S.).—We can give no other reply than we gave last week to a similar application. Write to Mr. Brindley, Derby, and inquire of him.

BUFF COCHIN-CHINA COCK'S PLUMAGE (T. R.).—The wing of a Cochin-China cock should be of the same colour as nearly as possible as the rest of his plumage. It was one of the beauties of the old strains—Andrews's for instance—that the cocks were even-coloured. More recently lemon birds were shown that were perfect in colour, but such are now never seen. Almost every bird is mealy, and those that are not have dark nearly red wings. The Buff Cochin cock we have sometimes seen, and still dream of, should have but one colour throughout—tail, body, wings, and hackle should be uniform. In the best days of Cochins, half the prize-taking pens of our time would have been disqualified because the cocks and pullets did not match.

SOUTHAMPTON SHOW.—Allow me to correct an error that arose at the Southampton Show. Pen 25 in class 6 (for Light Brahma of all ages), is stated in the catalogue to have been hatched in April 1883. This was true as regards the pullets, but the cock was an old bird. The mistake arose from my omission to make a memorandum of age, &c., at the time of sending the entry, and my being consequently under the impression that so particular age had been stated on the entrance paper.—JOHN PARR, Pooleford, Guildford.

VARIETIES RUNNING TOGETHER (A Subscriber, Staines).—The Bantams may safely run along with the three larger varieties you name. "The Poultry-Keeper's Manual," which can be had from our office free by post for 7s. 9d., contains the information you seek, and full directions for keeping, and particulars relative to every kind of poultry.

"NEWMARKET" is glad that his strictures on the Standard of Excellence have obtained the approval of that old, constant, and well-known correspondent of the Journal—the "WILTSHIRE RECTOR."

BOOKS (C. Wrigley).—"The Poultry-Keeper's Manual," which you can have free by post for 7s. 9d. "The Pigeon Book," which you can have similarly for 1s. 8d.

WEEKLY CALENDAR.

Day of Month	Day of Week	NOVEMBER 6-12, 1886.	Average Temperature near London.			Rain in last 30 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
6	TU	Chrysanthemums.	Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days	m. a.	
7	W	Cinerarias.	53.9	37.6	45.8	19	4 17	23 44	45 45	17 44	29	16 14	310
8	TH	Heaths.	53.8	37.1	44.7	18	6 7	22 44	50 6	16 4	28	16 11	311
9	F	PRINCE OF WALES BORN, 1841.	51.1	34.8	42.9	18	8 7	20 4	50 7	17 5	1	16 7	312
10	S	Pelargoniums.	50.5	34.0	42.8	15	10 7	18 4	47 8	16 5	1	16 2	313
11	S	Pelargoniums.	50.4	34.5	42.4	22	11 7	17 4	41 9	16 7	2	16 3	314
12	SUN	24 SUNDAY AFTER TRINITY.	50.4	34.5	42.4	15	13 7	15 4	39 10	15 7	4	15 56	315
13	M	Citriobatus multiflorus.	50.3	35.7	43.0	16	15 7	14 4	18 11	20 8	5	15 42	316

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 51.1°; and its night temperature 35.3°. The greatest heat was 68°, on the 12th, 1841; and the lowest cold 17°, on the 9th, 1864. The greatest fall of rain was 1.03 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

CULTURE OF VARIEGATED ZONALE PELARGONIUMS.



SEE you request some of your readers to say how they grow these beautiful plants, so as to preserve their brilliant attire. If by this is intended how

they are to be grown so as to look equally bright and beautiful all the year round, I think no one will be able to give a satisfactory reply. The young leaves are always brighter than old ones, and higher in colour, nor are young leaves produced in autumn and winter quite equal in beauty to those which appear in spring and summer.

If, however, to grow them satisfactorily—that is, in rude health and vivid in colour, is intended, I think nothing more easy. I heard so much of Lucy Grieve being a bad grower, that I hesitated to give three guineas each for two very little plants; but it grows so well with me that I soon had a couple of strong cuttings. I have a house with more than a thousand plants of variegated Zonale varieties in perfect health, and find no difficulty in their cultivation.

It is quite true they will not flourish in common garden soil; but how few plants worth growing in pots can be so cultivated. What they require is a light soil made rich; ours is equal parts of good sandy loam and fresh stable-manure mixed together, and turned over till the whole is reduced to a rich dark mould, which it takes nearly a year to prepare. In this way there is little or no loss; whereas if manure is rotted in a heap by itself great waste takes place. A heap of manure kept long enough by itself to be reduced to black mould, is little stronger than so much leaf soil; by repeated turnings, necessary to what is commonly termed sweeten it, and exposure to rains, it loses the greater part of its saline matters, and gives off much to the atmosphere in the form of gas. If it is mixed with soil, this is almost entirely prevented.

Besides the above considerations there is another advantage in thus preparing composts. It is a fully acknowledged fact that a field of poor worn-out soil cannot by any amount of manure be brought to the highest fertility in one year. It is a common saying amongst farmers that it takes seven years to enrich a farm, and seven years to reduce it again to its original state. They thus recognise that manure must be intimately united with soil as well as mixed with it. No mere mixture of decayed manure can be so perfect when turned over with fresh soil as if it had decayed in the same heap; whilst we know chemical compounds are more readily formed when their constituents are in a nascent state. I contend, therefore, that a heap of soil prepared as I have stated is much better than any mere mixture.

No. 295.—Vol. XL, NEW SERIES.

If the compost is not very light, add a little white sand, and a very small quantity of new cocoa-nut refuse to keep it open. I know some cultivators object to cocoa-nut refuse as causing fungi, but it is less objectionable than leaf soil, if used new, in small quantities, and intimately mixed with the soil. Though I have used it for years I have only seen two cases of injury from its producing fungi, and these were plants which had remained in the soil for two years without change, and in which the refuse had been used in excess. I never use leaf mould to pot any plant now, being convinced the good it does is only mechanical when mixed in soil, and that in this respect it is inferior to cocoa-nut refuse. Neither is worthy of the name of a manure, and their addition tends to dilute a rich compost.

Being rather weak-rooted plants, the variegated Zonale Pelargoniums should not be over-potted, and the pots should be well drained. During winter they should be in a warm dry house, and as near to the glass as convenient, and not be over-watered. If from any cause the soil looks green and wet, and the plant growing in it unhealthy, turn it out at once, shake every particle of soil from the plant's roots, and repot it, and it will almost immediately improve. When planted in the garden, prepare a bed by digging out the soil 6 inches deep, and filling it with exactly the same soil as that used for potting—that is, if you wish to grow the plants in perfection—and they will then become almost as strong as Tom Thumbs, whilst the size and beauty of their foliage will astonish you.—J. R. PEARSON, *Chilwell*.

THE PLUM AS AN ORCHARD TREE.

Of our native fruits certainly none has been more indebted to the skill and care of the cultivator than this, and although the produce of the wild Plum has but little resemblance to that of some of the best cultivated varieties—for example, the Damson and the Magnum Bonum hardly seem to claim a close relationship—yet I believe these, as well as all other varieties, originated from the wild species found in this and adjacent countries. How many generations have passed away while the work of improvement has been going on it is not my purpose to inquire; but doubtless the first advances in the way of improvement or cultivation were slow, and were probably often the result of accident. Thus a seedling possessing more than ordinary merit was, perhaps, thought worthy of notice, and suckers from it being transplanted elsewhere, were improved by the change, while from these other seedlings manifesting a still higher degree of perfection would in time originate. These accidental discoveries of new kinds have not ceased yet, for during my lifetime one of the most popular and productive of our market Plums was met with growing in a hedge or copse, and others may yet be found in a similar way. It would, indeed, be difficult to conjecture to what extent the improvement of the Plum may still be carried, since it certainly presents us already with greater diversity than any of our other fruits.

As the fruit is in great request during the season at

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which it is to be obtained, a few notes on the cultivation of the tree may be acceptable to those whose locality is less favourable to its growth than that from which I write; at the same time I am open to correction for any inaccuracy I may fall into with respect to the varieties or other features pointed out.

The fruit of the Plum in its wild state, like the Crab, is not inviting, but from the habitats of the tree we may gain some useful hints as to the most suitable soil for its growth. The wild Plum tree presents so strong a resemblance to the Damson, that although botanists consider them as belonging to different species, the distinctive features are so linked together by many intermediate varieties that the line of demarcation is very difficult to define. The Damson, however, has more of the characteristics of a species, and possibly it may have been less altered by culture than its broader-leaved congener. Certain it is that its hardiness is greater than that of any mere garden variety, and equally so the facility with which it naturally increases itself by suckers. Some other varieties of Plums, it is true, likewise produce numerous suckers; for instance, a kind of Green Gage, occasionally met with as an orchard fruit, is not unusually propagated by this means, and the trees so raised are certainly more healthy and show fewer symptoms of early decay than those worked in the usual way, and possessing, as they do, all the constitutional infirmities of the parent tree of which they formed a part.

Taking for granted that the cultivated Plum owes its parentage to some of the wild varieties common in our coppices and wastes, it would follow that hardiness must be one of its qualifications, and this it possesses in a considerable degree. It is to be feared, however, that all, or a great part of all, improvement is not effected without some sacrifice of constitutional vigour or hardiness, and the Plum seems to be no exception to this rule. Other fruits—viz., the Apple, Currant, Gooseberry, and Strawberry, which are occasionally found in a wild state in this country, are also apt to suffer from the vicissitudes of the seasons; but the Plum is, perhaps, the hardest of all; yet it has the disadvantage of blooming earlier than the others, and when, consequently, more severe weather may be expected. It is also too often planted in a situation where more delicate fruits would hardly prosper. Nevertheless, the Plum is often a highly productive tree, and even bears good crops without being indebted to the cultivator for any assistance for years after it has once been established. It cannot, however, be denied that it produces more abundantly in some localities than in others, and such being the case, let us take a glance at the conditions necessary to insure a favourable result.

Although the wild Sloe and its broader-leaved relative, to which the Plum is said to owe its origin, are often found in hedge rows in a stiff clayey soil, it is by no means clear that this soil is that most suitable to them; on the contrary, they may also be found growing on the steep declivities of stony banks, not of the driest class, but such as present a fair amount of moisture without stagnation, and that which is equally important, a soil containing lime and chalk in tolerable abundance. Under such conditions the wild Plum seems to luxuriate, and under such the cultivated kinds also seem to thrive well; indeed, some of the best Plum orchards are in situations of this kind, on a soil plentifully interspersed with stones, and with a porous substratum which can be penetrated by the roots, the whole partaking more or less of a chalky or limy, but not ferruginous, character. There are, it is true, cases in which the trees do pretty well under conditions the contrary of the above, but I question much if the best of them can equal those growing in positions such as described, due regard being paid to climate and other considerations affecting vegetation of all kinds. The character of those districts whence the largest supplies are drawn for the London and other markets may, perhaps, be taken as a sort of criterion, and I believe the soil and position just stated will be found the best. Where there is a choice of aspects on a range of gentle hills or undulations it is thought that one facing the west is the best for the Plum, as being that in which the trees are the least likely to sustain injury from sudden gleams of sunshine after a frosty morning in blooming time; but they are occasionally planted in all aspects, and often enough on a large breadth of level land. The more common kinds of Damson are frequently planted in positions anything but favourable to the growth of any but the very hardiest and most robust fruit trees, and yet a considerable crop is often the result.

In districts where the Plum is grown as an orchard fruit it is usual to plant it by itself on tillage ground, or rather not to mix it with Apple, Pear, or Cherry trees. Small bush fruit

may be grown for a few years, but they are removed when the legitimate occupants attain a size which indicates that all the space is wanted. Standards 6 feet high are usually planted, and tied up for one or two years, after which they are expected to stand without assistance, and very often when the bush fruits are removed the ground is sown with grass. The trees for some years after planting are looked over in winter, and pruned in a suitable manner to insure the formation of a head of the required shape. In doing this all severe cutting is avoided, but rampant or ill-placed shoots are either cut in or entirely removed; and when a favourable, dry, sunny autumn occurs, fruit-buds will usually be set in sufficient abundance for a crop in the following year; if that prove a favourable one, and a crop be secured, there is not much occasion for the knife afterwards, as the tree becomes less vigorous in proportion as it becomes more fruitful, and a dry hot summer has more influence in securing fertility than all the skill of the pruner. Assuming, however, that a plantation of this kind is progressing, nothing can well look richer than it will do at the time the trees are in bloom, and a Plum orchard may be seen many miles off, the bloom being white, and more conspicuous at a distance than that of the Apple, and the trees remain longer in bloom than either the Pear or Cherry. Trees of eight or ten years old that have been planted 20 or 24 feet apart are very attractive when in bloom, and perhaps still more so when in fruit if the crop is good, and older trees likewise look well, although it must be confessed that a healthy young specimen has a better appearance, and produces better fruit than an old one, which is not always the case with other fruits.

As with most natural productions, there are particular districts noted for Plums; in Scotland, the valley of the Clyde, and in England, Cheshire are parts of the country where this fruit is extensively grown; such, too, is the case around London. The counties of Herts and Bucks, I believe, each contribute considerable supplies, and large quantities of Plums are also produced in Kent. The crop of one grower less than a mile from here amounts to from one to two thousand bushels in favourable seasons, and some others grow Plums more extensively; nevertheless, this fruit is not the staple product of the district, and I do not know of any plantation exceeding ten acres within a radius of five miles, but there are plenty of examples of good cultivation, and sufficiently extensive to report upon. There also appears to be a disposition to increase the growth of Plums rather than that of Apples and Pears, so it is possible that in a few years the district will be more famous for its Plums than at present.

I will now offer a few notes on the kinds mostly grown as orchard fruits, and which are the following:—

Royal Dauphine. A useful Plum; tree a great bearer, and generally considered hardy.

Diamond. This, I believe, is not much known elsewhere, if having been raised in the district. Tree a good bearer, and the fruit by no means indifferent for table.

Prince of Wales. Great bearer. A good market Plum.

Orleans. Two varieties, one earlier than the other; both good, and extensively grown.

Mogul. Not so popular as it was a dozen years ago, being less certain than some others.

De la Sue. A good kitchen Plum. The tree attains a good size, and several bushels have been gathered from one specimen.

Magnum Bonum. Yellow and Red, the latter the better bearer of the two, but neither so extensively grown as some others.

Reine Claude de Bavi. I believe this is often grown as a Green Gage under a local name.

Goliath. More frequently grown on walls than on standards, and inferior to the Red Magnum Bonum for that purpose.

Early Harvest. A small early Plum. Name local.

Green Gage. Several varieties, some questionable as to name, the most healthy-growing trees being seldom of the right sort.

Golden Drop. Not much grown in this locality.

Washington. A fine Plum, deservedly esteemed, but not so good a bearer as some others.

Victoria. A good bearer; useful fruit.

Pond's Seedling. Not much grown, but promises well.

Damsons. One called the Prolific is most in repute; it is said to be of local origin, and is frequently named after the river. It is medium-sized, not so large as the Shropshire Damson, but an excellent bearer. Many trees are planted in hedge rows, or by the sides of plantations in exposed places.

Besides the above varieties there are others cultivated more

or less extensively, each grower having favourites of his own; while all are in some degree influenced by the demand of the public, who are attached to a few names, and who regard innovation with suspicion.—J. ROSSON.

VENTILATION.

A short time ago Mr. Bréhaüt called our attention to the evils of cold draughts in houses; yet orchard-houses are built with an express provision for the admission of such draughts, and on the ground that the ventilation is thus rendered more complete, and the air, reaching the under surface of the leaves, makes the red spider uncomfortable. I observe, however, that narrow orchard-houses are now giving way to broad ones, and it is possible that the superiority of the latter may arise as much from the comparative absence of draughts as from their greater immunity from frost.

I have built my orchard-houses as I was told, but long before these structures were thought of I built myself an unheated vinery upon the reverse principle—namely, giving air at the top only. My idea was that the cold external air while descending was met by the warm ascending current, that it fell to the floor with its chill off, and then slowly rose among the foliage. The success of this vinery has been remarkable. There is no front ventilation whatever except a few air-bricks in the front wall, which are stuffed up with hay till the Grapes begin to ripen, when the hay is removed, and a current allowed to pass through the house day and night. Possibly Peaches might not thrive under such treatment, but Vines certainly do.—G. S.

THE NEW ROSES.

I have already, in giving a short account of an afternoon at Vitry, said something about M. Eugene Verdier's new Roses; and although I cannot positively pronounce on more than one or two of them, I would not set this down as condemnatory of the remainder. In looking over a very large number of flowers of any sort one is apt to become bewildered, especially if the time for doing so be short; and as I have explained, owing to a misapprehension I had but little time, nor had I the advantage of M. Eugene Verdier's company in seeing his Roses. I therefore give now my opinion of the ten with this reservation. His own description, excepting that of the foliage, which has very little interest for us, is first given, and then, as before, my own judgment.

11. *Comte Litta*.—Flowers large, full, well formed; petals elegantly waved, very large, a magnificent velvety colour, fiery red, indescribable purple, and edged with violet. An extra variety.

12. *Jules Calot*.—Flowers not very large, blooming in clusters of from ten to fifteen, full, very well formed, and holding themselves well, beautiful carmine red, strongly bordered with bluish. A very pretty variety.

13. *Madame George Paul*.—Flowers large, full, imbricated, well formed, large round petals, beautiful shaded lively rose, strongly shaded with a whitish border at the outer edge. A superb variety.

14. *Madame la Baronne Haussmann*.—Flowers not very large, in clusters of from three to eight, full, well formed, beautiful lively carmine red. Very good variety.

15. *Madame la Baronne Maurice de Graviers* (!) Flowers not very large (they ought to be with such a name), blooming in clusters of from three to eight, well formed, and holding themselves well, beautiful cherry red shaded with rose and carmine; reverse of petals bluish. A remarkable variety.

16. *Madame la Comtesse de Turenne*.—Very vigorous. Flowers large, full, flat, imbricated, in clusters of from three to six, delicate flesh colour, with bright centre.

17. *Mademoiselle Annie Wood*.—Plant vigorous. Flowers large, very full, perfectly imbricated, beautiful clear red. An unexceptionable variety.

18. *Mademoiselle Eleanor Grier*.—Plant vigorous. Flower large, full, of perfect form, and holding itself well, beautiful shaded lively rose. A very remarkable variety, reminding one of the most beautiful Provence Roses.

19. *Napoleon III*.—Plant vigorous. Flowers large, blooming in clusters of from three to six, full; magnificent and unique in colour, of two different and perfectly distinct colours—very lively scarlet, and shaded slaty violet. An extra variety of the very first order, and of an incomparable effect.

20. *Valours Pourpre*.—Plant vigorous. Flowers medium size, blooming in clusters of three to six, full, lively velvety crimson, heightened with shaded brown, scarlet, and violet. A very pretty variety.

This seems, and is, a large number to be let out by one raiser, especially as they are all his own raising; but in looking at our Rose lists it cannot be denied that we owe a great many of our really good Roses to M. Eugene Verdier. Not to go beyond last year, I find that nearly all the growers, even those who keep their lists most select, have placed in them Charles Rouillard, Marguerite Dombrain, and Jean Lambert, while others speak very highly of Fisher Holmes, Alba Mutabilis, and Prince de Porcia; and thus out of his ten of last year there are six which promise well. I have no hesitation in saying that I regard Napoleon III. as the very brightest Rose in cultivation. I saw it amongst a multitude of other bright-coloured flowers, and it immediately attracted my notice by the intensity of its scarlet colour. Comte Litta I also consider as good. The same may be said of Mademoiselle Annie Wood; but unquestionably the best is Napoleon III. It and Antoine Ducher I considered to be the best two Roses I saw on the Continent. Next week I hope to take up those flowers which I have not seen, and in which we must be guided by other evidence.—D., Deal.

GROWING STRAWBERRIES FOR PROFIT.

THERE is a dispute between two market gardeners about growing Strawberries to the best advantage for market, and we thought that we could not appeal to a better referee than you. No doubt there are many ways of growing them, all turning out pretty well, and every person thinks his way the best; but at the same time there must be a rule for this as well as for other things.

I am very sorry to see but very little from the hard-working market gardener. He seems to work from morning to night, and never thinks of looking at a book or paper to see how things have altered since he was a boy. How many a hard day's work could be lightened, how much more money could be saved, by expending a little to have some new sorts of things to bring him in about four times as much as the old! Take for example the Strawberry. Look at the old Black Prince and the old Gandinas; compare them with such as Frogmore Pine, Sir Harry, Myatt's Eleanor, or Eliza, or any such sorts. Put the old Black Currants against the new, say the old Black Dutch against the Black Naples; and in Gooseberries it is the same, to say nothing about Pears and Apples, and many other things.

But the old stagers say, "We have had them many years, and have done very well, and it's not worth while to change!" That stand-still system will not do for us youngsters. We can see the difference, and now we come to ask you to decide.

My plan is, first to find out the best croppers and those that will bear travelling, for that is a great point for the grower as well as for the buyer. I have seen two sorts put together after they had come twenty miles, and have made from 4d. to 6d. per quart more of them. Alice Maude and Myatt's Eleanor are the best that I have had yet, one for early and the other for late supply.

And now about growing them. We always like to have our ground trenched twelve or eighteen months before planting, applying plenty of good rotten cowdung, and we do not put in too heavy crops before we plant the Strawberries, but always give plenty of dressing with them. Our last crop before planting them consists of early Potatoes, and we dig these up as soon as the Strawberry plants are large enough to put out, which is about July. We put early ones in beds, three rows in a bed, and two-foot walks between the beds. We let this plantation remain for three years, and then we dig out the middle of the beds, and line the plants in rows with a good coat of dressing. We thus get them to give good crops for two or three years longer. We also plant some in early borders pretty thickly just for one year; we find this succeeds, as the plants do not consume the dressing from the fruit trees. We obtain a crop between the planting every year for our late ones. If our ground is wet and heavy we plant them on ridges, just the same as for Man-gold Wurtzel. We find that the large sorts require it to get plenty of sun and air, otherwise they rot. If the ground is light we put them in in rows 2½ feet apart, and 1 foot between the plants in the row.

And now for the other plan. So far as I know it is as

follows: Take up your plants in August or September; plant them in rows 1 foot apart, and 6 inches between the plants in the row. Have your ground ready in May, and plant them out for good; some leave them so until the next autumn. I think this is a great mistake. I know one crop must be lost by it, for we always have a good half crop the first year. We have often had our early beds covered over with young plants in the same summer that the beds were planted. We always take the finest plants, and if we have not enough we wait for another year, which is much better than to have the trouble of taking up all and planting as the other party do. Look at the time and ground it takes, besides the loss of a crop, and the roots of course advanced one year towards old age, and no one the better of it; and I consider the roots the worse for it. If we cannot put in our Strawberry plants very early, and in time for them to become well established, with good crowns, before the winter comes on, we give it up.—J. T. AND OTHERS.

[In all callings and in all circumstances of life there will be no difficulty in finding plenty of good, easy, industrious people who cling to the old ways; who like everything all the better because it is old; and who, if they can be excited at all out of the easy happy quietude of their lives, will be apt to be so when aroused into something like energy, as they denounce all "new-fangled" notions and customs as inconsistent with the due reverence that ought to be felt for the wisdom of those who have lived before us. Such jogtrotts, however, it should not be forgotten, are generally a safe class of men. They will never fall into the many troubles that will be sure to encompass those who are tickled with any thing and every thing that is, or pretends to be, new. Their grand characteristic is, that they do hold fast to that which is good, even as respects their general avocations. Their great fault is, that they are so satisfied with what they have, that they have no desire to "prove all things," and especially all new things, being thoroughly contented with old things, old ways, old tools, and old everything. Not long ago we saw men toiling in stiff soil with three-pronged forks that would have weighed as much as three of the four and five-pronged steel forks coming into general use; and when from home we ever and anon met with a nice mowing machine rusting in a corner, and the men cutting dry short grass with the scythe, and leaving plenty of ridges and hollows after all their severe labour; but they would do this, so as to have the pleasure of depreciating all "new-fangled" tools.

What does, however, seem to us rather strange is, that our correspondents "J. T. AND OTHERS" should, from their own observation and experience, be able to tell us that this love of the antiquated has taken such hold of the hard-working market gardener, who "seems to work from morning to night, and never thinks of looking at a book or a paper to see how things have altered since he was a boy. How many a hard day's work could he lighten, how much more money could he save, by expending a little to have some new sorts of things to bring him in about four times as much as the old, &c. But the old stagers say, 'We have had these many years, and have done very well, and it is not worth while to change.'"

Now, as regards market gardening, our field of observation may be very limited in comparison with that of "J. T. AND OTHERS;" but that would have led us to a very different conclusion. We should have thought that no class of men were more impressed with the importance of seeking help from every improvement than market gardeners, or were more resolved to keep a keen eye to what would further what men of the world consider to be the main chance. We were still more impressed with this when we had the opportunity of looking over their gardens, and on observing the good products of their skill, which they sent to market and horticultural exhibitions. Far from being behind in looking out for improved kinds of fruit and vegetables, the complaint has been rather general, that when they had obtained something very superior they knew too well how to keep it to themselves; or, if they pretended to part with it, would send out a less carefully saved and therefore inferior article. We say nothing now of the selfish short-sightedness of all such schemes if they have existed or do exist; but the general character of their productions would lead us to the conclusion that, if so much wedded to the old, it is chiefly because they have proved that old to be the best in their circumstances.

It is well that in making such a charge, "J. T. AND OTHERS" belong to the market-gardener fraternity; for a hint may be taken kindly from a brother in the trade that might be resented as a rude blow if given by a stranger. For years it has been the fashion to direct the attention of gentlemen's gardeners

to the more economical and remunerative processes adopted by the market gardener; and so little, was it inferred, did gentlemen's gardeners understand about cropping, that it was more than hinted that every novice should be as much bound to pass a portion of his time in Fulham or Battersea fields as the young surgeon would be under the necessity of walking the hospitals. That young gardeners would learn much in these market gardens is not for a moment to be disputed; but those who went to the extreme in such advocacy forgot this very simple matter—that there must ever be a difference in economical returns when a whole crop can be cleared from the ground at once, and when many small crops must be obtained in succession so as to yield a constant fresh supply. A wagonload of Cauliflower at one time in a gentleman's garden would be poor compensation for not having a head to cut for a week or two in summer.

Though, therefore, we may not consider market gardeners such easy-going people as "J. T." represents them to be, and though we would earnestly desire that they might be more imbued with literary tastes—a love of reading and a desire for all information—not merely, nor yet even so much, as means for bettering their temporal resources, as for opening up fresh pleasures and unalloyed happiness, which will remain as rich springs of enjoyment when all that is grosser shall fall to gratify;—still believing that, as in other avocations, there may be some foundation for the charges of carelessly standing still, lack of literary interest in these reading days, and want of desire to prosecute general, professional, and scientific information, it cannot but give us pleasure to be told by "J. T. AND OTHERS," "That will not do for us youngsters; we mean to know the difference, to find out the best kinds, and, as respects Strawberries, the best croppers and the best carriers," the latter point being much insisted on as such bring the best price in the market, and the preference being given to Alice Maude, Myatt's Eleanor, and other firm varieties. And then as a proof of this earnestness we are informed of an animated discussion as to the best modes of cultivation for market; and he presents us with the modes in dispute, and solicits an opinion.

That our readers may be benefited by these plans, and be able if disposed to take part in the discussion, we will as far as we are able present them to their notice. First, then, as respects the plans or modes adopted by "J. T."

1st, The ground is well trenched and well dunged with rotten cowdung from 12 to 18 months before the Strawberries are planted, cropped with other things in the meantime, the last crop being early Potatoes, which are dug up so as to put strong Strawberry plants out in July, the ground being again well dressed as the Strawberries are planted.

2nd, For early kinds two plans are followed. First, those intended to be stationary are planted in beds 4 feet wide, we presume, with two-foot paths between them, and three rows are planted in a bed, and thus they remain for three years. Then the centre row of the bed is removed; the rows are lined out, which we presume will leave them all 2 feet apart from each other; and then the spaces between are covered with a good coat of rich dressing, and the plants remain two or three years longer. The second mode is to plant pretty thickly and early on an early fruit-tree border, and allow them to remain only one year, and thus good crops are obtained without consuming the dressing from the fruit trees.

3rd, For late and large kinds, and especially if the ground is rather heavy and wet, the plants are put on ridges, as if prepared for Mangold Wurtzel, the rows being 30 inches apart, and the plants a foot apart in the row, as they require plenty of sun and air, otherwise they rot.

4th, Or the opposite plan—the matter in discussion. By this mode the plants are taken up in August or September, planted out in rows 1 foot apart, and 6 inches from each other in the rows, and remain there until the early crops on the proposed Strawberry ground are removed, when they are lifted and planted in June and July, and onwards. This plan, "J. T.," from his point of view, considers a great mistake, and one crop must always be lost by it, as he always by his mode obtains a good half crop in the first year, from using only the first and strongest plants. He considers this extra planting and lifting a waste of time, waste of labour, waste of energy of root, waste of one crop, leading to premature old age, &c.

What say you, gentlemen of the jury? We would rather receive your verdict than give our own opinion. In mutual improvement societies the chief office of the chairman is to sum up. Now and then he may have to lead so as to provoke discussion; so we will give a hint or two as a commencement.

In the first place we would say, that better than any stereotyped rule is the principle that enables the workman to accommodate his operations to circumstances. Strawberries on light and on heavy land require different treatment. They will longer continue fruitful in the latter than in the former case. A distinct mode will often answer admirably when thoroughly carried out, but it will fail when intermingled with bits of other modes. There are many roads into London, but we must keep to one if we wish to reach it in a reasonable time. Then, again, "J. T.'s" mode of preparing the ground, dunging at planting-time, having the ground early cleared for the Strawberry plants, are all good; only if the Strawberries are to remain six years or so on the ground, we do not see so much necessity for trenching in the coudung eighteen months before planting-time, though doing this previously leaves less work to be done then. We presume that "J. T.'s" land is rather strong and heavy, and, therefore, we approve of his planting the earlier kinds in beds, and by thinning the beds, and rich top-dressing, we have no doubt that the plants may be kept very fruitful for the period of six years, and even longer, if the stools themselves were thinned out afterwards. Where, however, rotation of cropping must ever be an object, and in general circumstances, three years will in most cases be long enough to keep Strawberries at their best. Then, again, as to planting thickly in borders for one year, we have had and seen such wonderful crops, that we have been surprised that the system has not been more followed in the general planting of Strawberries, where the ground is scarce and valuable. Thus, supposing we plant as early as possible, why should we not plant our earlier kinds in rows 1 foot apart, and our later kinds in rows 15 inches apart, take one or two crops, and then cut up every alternate row, and mulch the spaces between?

Let it here be kept in view, that by selecting the *first strong runners*, and, if he cannot obtain enough, waiting for another year, "J. T." submits that he obtains a good half crop in the first year after planting. To have a full crop the first season it is generally necessary to layer the runners in pots; or, as soon as forming roots, to take them off, prick out 4 inches apart in sandy loam and leaf mould, water, shade, and encourage growth, and as soon as the ground is ready plant out as stated. This entails a good deal of primary labour, but the plants look after themselves when once planted and once watered; but there is much the same objection as applies to the mode of the opponent in the discussion. The mode of planting late strong-growing kinds on slightly raised ridges is worthy of consideration on wet, heavy land. The ridges in dry seasons could be mulched.

Now for the mode our correspondent condemns. That, too, in heavy lands, and where runners come late, we have found has its advantages, and we think the extra labour is somewhat repaid by the full crop obtained in the first season after planting. In the first place there is no such hurry or preparation required in securing early runners. Then, again, there is no necessity for taking the first-formed runner; and though we have been unable to follow up our convictions of late, many experiments have convinced us that the first runner is most distinguished for luxuriance, and that the second and third are more distinguished for fertility. Little more than half the ground stated would do for pricking them out, say 6 inches apart, and here they would look after themselves with little attention beyond one watering, the ground requiring only to be shallow-dug, and well enriched at the surface. Then, again, these will produce a little fruit the next season, though not to the same extent as the beds of "J. T.;" but an opportunity will be given to mark or remove all those that do not show fruit—a matter of importance in some kinds, as Elton, and Eleanor, which will hardly fruit at all in some places. The main plantations could thus chiefly be made of fruiting plants solely. More time could also be given for the clearing away of the spring crop and well preparing the ground, and though more labour would be required in lifting these plants with less or more of a ball, and planting them, they would require little more than one watering afterwards, and would be sure to yield a heavy crop the first season.]

PAINT OF DESTRUCTIVE QUALITY.

I REQUEST your assistance and advice under the following circumstances:—

Twelve months ago I had a house built for the cultivation of Cucumbers, and for forcing pot Vines, and large enough for a

separate department to each of them; but I have not yet been able to use it from the disagreeable and poisonous smell given off by the paint when the house is closed. So poisonous is that smell, that the leaves of plants of any kind exposed to it curl up, and in a few days drop off at the stalk near the stem of the plant, and not a plant of any kind will do in it; it kills everything.

I have no hesitation in saying that the mischief is caused by the paint, because it becomes softer as the house becomes warmer, and, in fact, it is always so soft that it will peel off with the thumb-nail, and every one who has seen the house says that the paint is the cause, but they cannot tell me what to do by way of remedy. I appeal to you for advice.

I have thought something might be applied to harden the paint, but that I leave to you. There are no drains connected with the house, nor have the pipes been painted or tarred. I have left air on night and day for months without effect. Should you not be able to advise me, might I suggest that my letter should be published? thinking it may call forth a remedy from some correspondent who has been similarly puzzled, and, perhaps, stop tradesmen from mixing such poisonous materials in their paints for plant-houses, as they have done in this instance.—T. R.

[This is a very important communication, and none the less so, though we may not be able to solve the difficulty. When there was such a rise in the price of linseed oil and turpentine, there was much inferior oil; and a so-called patent turpentine, made from paraffin, or something of that kind, was used both for putty and paint, and in almost every case such mixtures would not harden properly. Judging merely from the statement given, we should conclude that fish oil had been used for the paint, and some inferior sort of turps, and not unlikely some poisonous mineral might form part of the paint. Of course, we could not say that such has been the case, but it would be worth while to make inquiries on the subject. If such inferior fish oil has been used, we are unable to point out any remedy; the softness and the bad smell will be apt to continue in proportion to the heat applied. We are the more convinced that something like this is the matter from the ill consequences having continued so long, and the only thing we would suggest would be to brush the whole of the paint over with a strong ley of potash, which will cause the paint to come off pretty easily, wash the woodwork, and when dried, paint with boiled linseed oil and red lead, and when dry follow with what colour you like, of good lead, turps, and linseed oil. Before, however, you do anything of the sort, make what inquiries you can, and see what other correspondents may have to say of the evil and a possible remedy. For this purpose we invite information.]

GOOSEBERRIES.

SOME years ago having made a rather large collection of Gooseberries, I have, like your correspondent "H. N. B." (page 312), discarded all which are inferior. The list I should recommend to those who look for flavour is as follows:—

RED: Red Champagne.—The best variety known. Probably you meant this when you recommended the Ironmonger, by which name it is often called in Scotland. There is, however, an Ironmonger, properly so called, which is a different fruit, and decidedly inferior. Warrington.—Handsome and valuable for its lateness; flavour far inferior to Red Champagne. Here I should end my list of Reds, unless Red Raspberry be kept as a curiosity.

WHITE: Fig.—Early and good, but the plant slim and tender. Hedgehog. Taylor's Bright Venus.—This is certain to give satisfaction. Whitesmith.—Large, with a glutinous sweetness, but not equal to the preceding. Honey.—Of this I have read the praises, but have never been able to procure a plant. What I received from a first-rate nursery was not true to name. I recollect, however, having seen the variety offered in the catalogue of the late Mr. Veitch, of Exeter.

GREEN: Massey's Heart of Oak.—Of excellent quality, though large. Pitmaston Green Gage, Hebburn Prolific, and Early Green Hairy.

YELLOW:—In this colour good flavour is rare. I grow only one sort, a seedling of my own, the parents of which were Whitesmith and Pitmaston Green Gage. Of sorts to be had of nurserymen, the best is Yellow Champagne, which, when well grown, is one of the most beautiful of Gooseberries, but it must not be tasted after its red namesake.

I recommend those who are exposed to the plague of black-

birds and thrushes to grow Gooseberries on a trellis; if a double trellis, with a few inches interval, all the better, as the same net thus does double duty. For the single trellis, iron sheep-hurdles answer well. My plants are 2 feet apart, and trained upright; old wood cut out from time to time. This upright training is awkward with spreading and pendulous varieties, as Warrington and Hedgehog. Perhaps an angle of 45° would be a fair compromise between these and the upright varieties, such as the Red Champagne. I think it desirable to have the early sorts by themselves, so that the net can be removed directly they are over, and not allowed to remain and rot while the later varieties are coming in.—G. S.

THE CULTIVATION OF PASSIFLORA LAURIFOLIA, OR WATER LEMON.

As this fruit is becoming popular, and I have grown it very successfully, perhaps a few remarks concerning its culture will be interesting to your readers.

Supposing that you have a plant well established in a six-inch pot, say in January, shift it at once into a 12-inch pot, and place it in a stove where there is a bottom heat of 80° and a top heat of 65°. If all go on favourably the plant will be well established by March, and then comes the final shift, which must be into a box or tub 3 feet in diameter, 2 feet 6 inches deep, and provided with good drainage; or, still better, into a bed suited for Pines. The soil which I find best is good turfy loam, rough peat, and silver sand in equal parts. Train the branches upwards to the roof, along the lightest part of it, and as near the glass as practicable. Let the laterals hang down from the roof, and they will grow and produce flowers very freely by July. These must be impregnated with the pollen of *Passiflora cærulea*, or some other common kind, as their own will not fertilise. The plant will require abundance of water at the root, and if this be supplied the fruit will swell very rapidly and be ripe in about six weeks.

The fruit has a very pretty appearance, being about the size of a hen's egg, and in colour of a bright yellow. Of the flavour I cannot say much, as it is rather inferior, like that of most other tropical fruits. The plant will continue fruiting until December, when it should be kept rather dry at the root, and in the temperature of a Pine-stove. About the first week in March give a good watering at the root, which will excite the plant into growth again, and the flowers will soon appear and continue all the summer.

I consider *Passiflora laurifolia* one of the easiest fruits to cultivate.—A. B.

VIOLA CORNUTA.

Your correspondent, Mr. Bennett, may rest assured that what Mr. Wills has said about the varieties of this plant is quite correct. There are two varieties here, and so very distinct are they that the one is perfectly useless, while the other is first-rate.

The inferior variety is a procumbent grower, yielding a very small amount of flower. The other is an upright grower, and flowers very profusely. In shape, colour, and size of individual blooms the two are very much alike.

As this is a plant that is likely to be much sought after, it is important that this great difference in point of usefulness should be impressed, and, therefore, I thus corroborate what Mr. Wills has said.

From my experience last year, I question very much if this fine bedding plant will come quite true from seed. On this subject, however, I cannot speak with confidence; and as it would be an important point for the public to have decided, it would be well that those who have decisive experience to record should do so. I do not remember whether Mr. Wills touched on this point.

I think every encouragement should be given to hardy plants that are suitable for bedding-purposes; and we may hope for something more from Violas. What can be more gorgeous than the Cliveden Yellow and Blue Pansies? and with me they flower nearly the whole year. A row of the splendid Yellow has at present more bloom on it than anything in the garden, excepting *Tagetes signata pumila*, which is a wonderful plant for profuse and long-sustained blooming. Hardy plants suitable for grouping are cropping up fast. What can be more effective in its way than the variegated *Dactylis*, and, most of

all, the variegated *Polemonium cæruleum*? and I hear of other hardy subjects that must in the nature of things be one day largely used.—D. THOMSON, *Archerfield Gardens*.

I was much surprised to see Mr. Findlay's remarks on the above (see page 814). Whatever may be the difference between the Violas I am not in a position to say, but I am certain that if Mr. Findlay could manage the one grown in this part as well as they manage it at Osberton, he would at once retract his remark, that the only one that will give satisfaction is that grown at Huntrods Park.

This I consider a great mistake, for the Viola grown in this neighbourhood has been admired very much during the present season; indeed, few flowers surpass it when well done.—J. M., *Workop*.

ROYAL HORTICULTURAL SOCIETY.

WEEKLY SHOW, November 3rd.—Prizes were offered for the best collection of vegetables, of which Mr. Earley, of Digswell, sent a very nice collection, and he received the first prize. Mr. Young, of Highgate, was second; and Mr. Brown, gardener to R. H. Wyatt, Esq., Wandsworth Lodge, Upper Tooting, third. There were also several good exhibitions of fruit in the Miscellaneous class, of which the best were the Apples and Pears sent by Mr. Dixon, gardener to Lady Holland, Holland House, Kensington. Mr. Young, who sent a large collection of Apples and Pears, also received an extra prize, as did Mr. Earley, of Digswell, and Mr. Brown, gardener to R. H. Wyatt, Esq. Mr. John Stevens, Malvern Hall, Schillhill, received an extra prize for two handsome Pine Apples. A prize was also offered for a collection of six Pompone Chrysanthemums, which was awarded to Mr. Forsyth, of Stoke Newington, for very handsome specimens. Mr. Forsyth also received a prize for six handsome standards. Mr. Young received an extra prize for six Heaths. Mr. Earley had a similar award for six hardy Ferns. Mr. B. Porter, gardener to Hon. A. F. Ashley, Copt Hall, Epping, received a second prize for twelve cut blooms of Chrysanthemums; and Mr. F. C. Dickens, Vine Cottage, Flood Street, Chelsea, received an extra prize for six cut Moons. Mr. Earley also received an extra prize for a very nice tray of cut flowers.

GROWING CUCUMBERS FOR EXHIBITION.

Will you state which are the best kinds of Cucumbers for exhibition, and also in judging Cucumbers what are the principal points to look to? I see that some judges like very large fruit, others award the prizes to small kinds; but I like a kind about 9 inches long, and when sliced up not to exceed the size of half-a-crown.—B. HAWKINS.

[Butler's Empress Eugénie is a good White-spine Cucumber, and Butler's Perfection is a good Black-spined variety, that will range from 16 to 24 inches in length. Conqueror of the West, Munro's Rabby, Telegraph, Volunteer, and many more are very suitable for growing for exhibition, as a good length can be obtained with a small diameter, and with freshness and crispness. Short kinds of from 8 to 12 inches long are Ayres's Prolific Black Spine, Cuthill's Black Spine, Weedon's Black Spine, Sion House Improved, the last white-spined, or smooth. We have no fault to find with your taste in preferring fruit about 9 inches long, and when sliced up not exceeding the diameter of half-a-crown. At such a length we would prefer them not so thick. In fact, the long sorts will eat all the better if not thicker than the diameter of half-a-crown, even though they be 2 feet long. Youth and fresh crispness are the great qualities wanted in a Cucumber which is to go to table, and except in the long kinds you are much more likely to obtain these requisites in fruit from 9 to 12 inches long than in those of more than double that length. You will, however, have no chance of taking a prize with a brace of Cucumbers, each of 9 inches in length, if they compete with those of 18 inches or more in length, unless, as often shown, these long ones are too old or have been too long cut; and the practised eye can see that at once without taking them up and proving them to be old and limp instead of fresh, brittle, and crisp. With more thought we might modify a little some of the following points in judging; but if much out of the way, some of our readers will perhaps correct them, or at least give an opinion.

1. The first essential is that the brace of Cucumbers be young, fresh, and green.

2. Both the Cucumbers forming the brace should be straight, and the one a counterpart of the other in thickness and length.

3. Though young and crisp, the fruit should be sufficiently grown to be free of anything like deep sutures along the sides,

as these involve as much loss in preparing for table as deep-eyed Potatoes.

4. The shorter the shoulder of the Cucumber and the more distinct it is the better—that is, no blending of the shoulder with the general length of the Cucumber, but that general length or gun-barrel part should start with an abrupt roundness at once from the shoulder, and proceed with the same diameter until it ends as abruptly at the point.

5. It is well that the point should be quite green, and if the blossom be attached to it all the better. If the bloom on the Cucumbers is fresh from end to end an extra point will be gained.

6. As respects proportion, nine diameters used to be considered a good proportional length; and hence a well-grown symmetrical brace, 9 inches in length and 1 inch in diameter, will have many admirers besides our correspondent. We would prefer that for longer Cucumbers the diameter should be a little less proportionally—that is, a little less than 2 inches for 18 inches in length.

7. We have kept length to the last, but it will ever form a favourable item in judging when united with freshness and symmetry. Shorter fruit will beat long only when more fresh, more symmetrical, covered with richer bloom, &c.

There is, however, many a nice crisp Cucumber for use that may have a long tapering shoulder, be slightly crooked instead of straight, have no blossom at its point, and be deficient in the rich greyish bloom over its shining green coat; but then no one would think of showing these on an exhibition table.]

WALTON'S NURSERIES,

EDGE END, NEAR BURNLEY, LANCASHIRE.

THESE nurseries are situated on the side of a very bleak hill, about three miles from Burnley, and the nearest railway station is Brierfield on the East Lancashire and Yorkshire Railway. The traveller, after alighting at the Brierfield station, has to climb a long and rugged hill before he reaches Mr. Walton's nurseries, and there is but little to attract his attention on the way. The scene is very cheerless, for not a vestige of healthy vegetation is there to be seen, except the grass, which appears to grow very luxuriantly; the smoke from the numerous manufactories does not appear to injure its growth in the slightest degree. It is certainly the last place in the world where I should have ever dreamt of establishing a nursery. Mr. Walton must have had an undaunted spirit and indomitable resolution when he first made up his mind to start a nursery business on such a cheerless and desolate spot. He could see nothing before him but weary hours of ceaseless toil, for he had not at that time a large sum at his banker's—less than £20 he told me was all he had to start with. He no doubt consoled himself with the idea that he had not much to lose. Large houses now well filled with Orchids, Camellias, Azaleas, Roses, Pelargoniums, stove plants, &c., show that his untiring zeal has been crowned with success. The lesson all should learn from his success is "*Nil desperandum*;" and however great the difficulties they may see before them, all should take a lesson from Napoleon, who, when one of his generals made use of the word "impossible" in his presence, said, "Impossible is a word only to be found in the dictionary of fools."

The first house which I entered was devoted to the growth of Camellias; these were in a free and vigorous state of growth, remarkably clean, and handsome. Another house contained some thousands of young plants, which had only been worked last spring; these were growing very rapidly, and gave promise of soon becoming good saleable plants. It is astonishing how soon Camellias may be brought into a flowering state after grafting if they are properly treated. As soon as the graft has taken and has made a little growth, the points of the shoots are pinched out; this causes the plants to grow very compact, a habit which they will always retain. The great fault of imported plants is that they are generally very leggy. I noticed a large number of fine saleable plants of the following new and beautiful varieties—viz., Bicolor de la Reine, Clementina Magnani, Comte de Gomer, Lavinia Maggi, Countess of Derby, Cup of Beauty, Emilia Bandieri, Jenny Lind, Laura, Princess Frederick William, Queen of Beauties, and a host of others too numerous to mention.

What astonished me most was the magnificent collection of Indian Azaleas. There are several houses full of these, and they are certainly the finest stock of young plants I have ever

seen. Mr. Walton and his clever propagator appear to possess a particular mode of their own in propagating and managing Azaleas; they seem to propagate them almost as easily as a Verbena. I was quite astonished to see a fine stock of several hundred plants of the new hybrid Azalea, referred to in THE JOURNAL OF HORTICULTURE of February 27th, page 160. When the plant was brought to me it was not more than a foot high; it was in a four-inch pot. It is certainly the most beautiful Azalea I have ever seen; it is named Walton's Queen of the North.

The stock used for working the Azaleas on is the old *Alba magna*; this Mr. Walton considers the best. I noticed scores of cutting-pans full of this for stocks; and as soon as the cuttings are rooted they are potted off into small thumb pots, kept in a brisk heat, and when they have taken hold of the new soil they are fit for grafting. Mr. Walton uses the smallest tops of the new varieties for grafts. These are worked on the small delicate plants, merely fastened with a small piece of matting, and in a week or so the union is complete. The plants are then placed in a position where they can have the benefit of a brisk heat, with a nice humid atmosphere, and they seem to grow with astonishing rapidity. The fine stock of the new hybrid Azalea mentioned above was worked in this way. The plants are now on clean stems, 8 or 10 inches high, with beautifully compact heads, and are the prettiest lot I ever saw. The point of the graft is taken off as in the case of the Camellias, as soon as the union is complete; the graft then throws out three or four side shoots, and these, as soon as they have made eight or ten leaves, are stopped again; the process is repeated as soon as the third set of shoots has grown sufficiently long to bear decapitating. This is how Mr. Walton has worked up such a stock of the above variety in so short a time, and not a single top has been wasted. I also noticed large numbers of other new kinds of Azaleas, which had been grown on in a similar way. This house was so interesting, every plant being a model of symmetry and beauty, that I could not refrain from going into it again before leaving the nursery, to take a last look at the plants. I have seldom seen a sight that pleased me more; there was so much to interest me in examining the different stages of growth, first from the cutting, after this the fresh-grafted tiny plants, then the well-formed head, in many instances covered with prominent buds, which give promise of their coming beauty. I was also very much gratified by the kind and free manner in which Mr. Walton's propagator explained the different processes of propagation and management, for propagators generally like to keep their little secrets of success to themselves, and clothe their operations in mystery.

The following are a few of the new kinds I jotted down, all are of beautiful habit, and are perfect models:—Beauty of Woking, Comet, Excelsior, Forget-me-not, Grande Duchesse de Bade, Imperialis, Oracle, Punctulata, Reine des Pays Bas, Roi des Beautés, Stella, Vesuvius, Virginialis.

I noticed a large plant of one of the common kinds, and all the points of the shoots had been grafted with little bits of Stella. Some scores of grafts had been put on, and the union in every instance was complete. By grafting large plants of the old and worthless kinds in this way, splendid specimens may be had in a very short time. I noticed several beautiful white-variegated sports from *Eulalie Van Geert*. No plant has been more improved in a short time than the Azalea. There yet appears to be plenty of scope for improvement, and by hybridising the choicest varieties with some of the recent hybrid *Rhododendrons* many magnificent varieties might be produced.

In the propagating-house I noticed very successful hits with the following plants, many of them are very difficult to deal with, showing that Mr. Walton has the right man in the right place:—*Genstylis tulipifera*, *Boronia pinnata*, *Acrophyllum venosum*, *Eurya latifolia*, *Franciscea Lindeni*, *Rogeria graciissima*, several of the choicest *Retinosporas*, choicest hybrid *Rhododendrons*, *Gardenia radicans variegata*, *Ericas*, and *Epacrises*. There was also a fine stock of *Ericas* and *Epacrises* in different stages of growth looking remarkably healthy. Creeping on the roof of a large house I noticed a large plant of the variegated *Cobaea scandens*. This plant had thrown out a beautiful golden sport which I consider very pretty and well worth distributing. The leaves have a nice bright green centre with a thick golden margin; in appearance the variegation is very much like that of the golden *Arabis*, only the leaves are much larger and the colours more clearly defined. I consider this superior to the variety it has sported from.

In another house I noticed a splendid stock of *Maréchal Niel* Rose on its own roots. Upwards of a thousand plants of this fine Rose have been propagated this spring, and a great number of them sold. It appears to be one of the best kinds to propagate freely. Some few weeks ago I had a large plant of it, which was unfortunately broken over. It was cut up into a large number of pieces, put into some cutting-pots, and placed on a shelf in the Pine-stove, and scarcely a cutting missed. Even the young soft pieces have struck freely.

The next house I went into was filled with Orchids in a nice, growing, healthy condition. Amongst them I noticed some nice masses of *Phalenopsis amabilis* and *Schilleriana*, *Saccolabium Blumei* and *guttatum*, and in fact there were good free-growing plants of most of the genera to be met with in a good collection of Orchids. In passing through this house, which contains, I should think, £600 or £700 worth of plants, the thought struck me that Mr. Walton had made a good use of the few pounds with which he first started. The next house to this contained a very choice collection of Ferns.

I may here observe, that the most interesting and beautiful Fern I ever saw was *Asplenium fragrans*, at the Liverpool Botanic Gardens. As soon as the fronds were touched they threw off a grateful perfume, the same pleasing sweetness produced by the Grape Vine when in bloom.

The next house I entered was well filled with a miscellaneous collection of stove plants in good condition. There was a nice stock of *Cissus amazonica*. This is an exceedingly pretty stove creeper, having beautiful, shining, lance-shaped foliage, very similar in appearance and colour to *Caladium Veitchii*. The leaves are about 8 inches long and 1 inch in breadth at the widest part; the plant grows very rapidly, and is a very nice addition to our stove climbers. *Thunbergia fragrans* was also very pretty. This, I think, is likely to prove a valuable addition. There was also an immense stock of *Dracenas* of all the best sorts, such as *Cooperi* and *ferrea variegata*, *Crotons*, and winter-flowering *Begonias*, as well as a fine collection of hardy Ferns from the neighbourhood of Craven and Malham, both famous in Lancashire for their beautiful cascades, waterfalls, and magnificent scenery.

The last houses I visited were well filled with bedding plants, such as *Pelargoniums*, *Fuchsias*, *Petunias*, and *Lobelias*; and amongst the bedding *Pelargoniums*, *Violet Hill* Nosegay was very pretty, and likely, I think, to be very useful for bedding purposes.

I left Mr. Walton's nurseries gratified with what I had seen, and satisfied in my own mind that he well deserves the success which has crowned his long and anxious labours. He has now 12,000 feet of glass well stored with healthy fine plants.—J. WILLS.

HAYS'S PATENT CONSTANT STOVE.

So many applications are made to us for information as to a stove not requiring a chimney, yet suitable for greenhouses and conservatories, that we notice Mr. Hays's thus prominently. We have invariably condemned the use of unchimneyed stoves among plants, because, if either coke or cinders are used, these fuels emit sulphurous acid and carburetted hydrogen in sufficient quantities to injure the plants seriously. We have seen Mr. Hays, he assures us that the peat charcoal employed for fuel in his stove emits no other gas than carbonic acid during its burning, and, from having to pass through some of the same charcoal, no more than 8 per cent. of that gas escapes into the air of the greenhouse or other structure where the stove is placed. If this be so, then no injury would be caused to the plants there; but we have not tried the stove, nor should we mention it thus prominently, if it had not been tried and approved by Professor Pepper, and Mr. Rivers, of Sawbridgeworth, so that it has the sanction of science as well as sound practice.

That our readers may form a judgment upon the pretensions of the stove, we copy the following extracts from Mr. Hays's prospectus:—

"This stove is invented for the purpose of burning peat charcoal, one of the properties of which fuel is to continue to burn until entirely consumed, with a very small supply of oxygen or atmospheric air; another valuable property in peat charcoal is that it will absorb any obnoxious gases that may come into contact with it, and the inventor has availed himself of this peculiarity by arranging his stove so that the whole of the gaseous products derived from the combustion of the fuel are caused to pass through a chamber fitted in the upper part

of the stove, containing peat charcoal; by this arrangement these stoves require no chimney whatever, and thus become eminently portable, and suited for greenhouses, orchard-houses," &c.

"Polytechnic Institution, London.

"I beg to report that I have tried your 'Patent Stove' for the slow combustion of peat charcoal, and can highly recommend it as a convenient and cheap means of procuring a steady, gentle heat, in halls of houses, or greenhouses, conservatories, &c., where a forcing heat is not required. I ground my opinion upon the following facts: Peat charcoal from its peculiar porous nature, and also from the presence of a minute portion of clay, has a tendency to burn (when once fairly ignited) with the smallest supply of air that can be admitted; in one experiment, 5½ lbs. of the charcoal continued to burn in the stove for thirty-six hours, the chimney being a gas-pipe of half an inch diameter. In the second experiment, more air being admitted, the same quantity of charcoal burnt nineteen hours, giving for the two experiments a mean of 27½ hours.

"With the arrangement of the purifier containing peat charcoal, and fixed on the top of the stove, the steam and some of the carbonic acid are arrested, and the heat further economised, so that the products of combustion leave by the small gas-pipe chimney, only a few degrees higher than the external air. In greenhouses the temperature may not fall sufficiently low to demand a fire for weeks; but on the approach of a frost this 'Patent Stove' is at once and conveniently lighted by a spirit lamp placed in the ash-pan, and under the cage containing the peat charcoal, thus saving the domestic trouble, and insuring the regular lighting of the stove.

"My experiments were tried in a room very much larger than an ordinary greenhouse, and the temperature outside being 48°, the heat was steadily maintained at 64°, rising at one time to 66°, and even to 68°.—J. H. PEPPER, F.C.S., A.I.C.E., &c.

"I was much gratified last spring with one of your Peat Charcoal Stoves, which I used in my orchard-house to repel the sharp spring frosts while the trees were in full bloom. The facility of lighting it was most agreeable, and its slow combustion requiring no care during the night, after being lighted in the evening, I found a great advantage; it raised the temperature of my house so as effectually to repel frost.

"This kind of stove requires no fire or chimney, and, being perfectly free from any effluvia, will be found not only most useful for orchard-houses in spring to repel frost, and in autumn, in cool climates, to hasten the ripening of the fruit and shoots, but also for greenhouses of moderate size, and pits where bedding plants are kept during the winter. It is, moreover, very cleanly, the ashes being so easily removed by the drawer at bottom; in fact, it fully supplies a great want—a cheap and efficient mode of heating without the annoyance of a fire or chimney.—THOS. RIVERS, Nurseries, Sawbridgeworth, Herts."

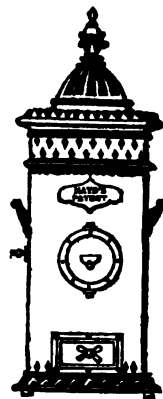


Fig. 1.

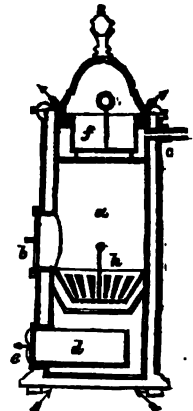


Fig. 2.

"Fig. 1 is an elevation, and fig. 2 a vertical section.

"To Light the Stove.—The chamber *a* (fig. 2) should be filled to the level of the top of the opening or feeding-door *b*, with peat charcoal, then open the throttle valve *c*. The moveable pan *f*, must be filled with peat charcoal, which acts as a purifier, and arrests all the vapours and obnoxious odours which arise from the combustion of the fuel. The fire may now be lighted by a piece of charcoal made red hot in a fire or a small spirit lamp in the ash-pan *d*, having first opened the regulating valve *e*; the flame of the lamp will ascend through the gratings and ignite the charcoal in a few minutes, when it may be withdrawn.

"To Regulate the Temperature.—The quantity of air necessary to keep up the combustion must be admitted by the regulating valve *e*, in the ash-pan, which by being more or less opened will determine the rate of consumption of the fuel, and, consequently, the temperature of the stove.

"To Replenish the Fire.—If the stove is attended to every

twelve hours it will be found quite sufficient to insure a regular and constant temperature, when the ashes should first be shaken down into the ash-pan by agitating the trigger *h*, and, after waiting a few seconds for the light ashes to settle, the ash-pan may be withdrawn, emptied, and replaced; the stove may then be replenished with peat charcoal, which should be put in at the door *b*; the purifying-pan should at the same time be replenished with fresh peat charcoal, and the charcoal which has done its work, thrown into the stove on the top of the fresh charcoal just put in, as the fire is liable to be extinguished if the spent charcoal is put in first. All that is required now is to let it alone for twelve hours.

"N.B.—The charcoal should be kept dry."

GROWING EARLY VARIETIES OF THE POTATO.

We find that experience in New Zealand accords with our own in this country. The following is from a letter published at Canterbury, New Zealand:—

A few years ago some very large tubers of this most valuable esculent were grown at Kaiapoi; forty-two Potatoes at one root, the two largest tubers being nearly 3 lbs. weight, and the whole weight 16 lbs. I beg to send you a few samples of a variety which I have grown this season in rather sandy soil, twelve tubers of which weighed when dug up 14 lbs. It is a very excellent variety, which is grown very extensively in the Valley of the Hutt, and has found its way here.

I find that a very good rule is to plant only early varieties in early soils, and I believe it to be a very good plan to plant late varieties early in the season as well in sandy soil, and to plant them pretty deeply also. I have found this practice to be very successful.

I find, also, that to produce fine tubers like those sent, the best way is to plant sets out with one single eye to each, and the result is sure to be large-sized tubers. If more eyes are left the crop will be heavier, but not so large. I have tried them several years planted both ways.—WILLIAM SWALE, *Avon-side Botanic Garden*.

NOTES AND GLEANINGS

We are glad to find that the Royal Horticultural Society's Exhibition at Bury St. Edmunds is likely to be held; for when those most peculiarly interested in its occurrence found that the Society were withdrawing they made a more determined effort; and Mr. Guy, of the "Angel" Hotel, in the "proud" town, has offered a site free from charge near the new railway station, and in close proximity to the Royal Agricultural Society's showyard. Moreover, a good commencement has been made in subscriptions to a guarantee fund.

It has been decided by the Council of the Royal Horticultural Society that the examination of the students in the garden at Chiswick shall take place in December next, the particular date we hope to be able to announce in our next. And the Council have also determined to carry out on the same occasion that portion of the educational scheme, the particulars of which will be found in Vol. V., page 162, of the "Proceedings"—viz., "Candidates will be eligible for examination in practical gardening if they have previously obtained certificates from the Society of Arts in botany and in floriculture, or in botany and fruit and vegetable culture; and in case they receive a certificate in either branch of practical gardening, will have their travelling expenses paid."

A candidate who can present a written recommendation from any Fellow of the Royal Horticultural Society, from the President of any Floral or Horticultural Association acknowledged by the Society, or from the Director of any public park or garden, may also be examined in practical gardening; but whether he obtains a certificate or not, he must himself bear the expense of the journey."

It is important now that attention is awakened to the economising of our coal supply, that the value of petroleum and other mineral oils as fuel is established, and we expect soon to see suitable furnaces arranged for their consumption in gardening structures. Government instituted experiments on the heating powers of petroleum, and the *Standard* says that,

"The engineers of the Woolwich Dockyard have returned to the Admiralty, we hear, a statement, without comment, of what Mr. Richardson has done, and have accompanied their statement with a drawing of the apparatus by which the results have been obtained. 'Good wine needs no bush,' and such

results as the patentee, aided by the dockyard authorities, has obtained need no comment. When it is known to every practical engineer that 7½ lbs. of water per 1 lb. of the best steam-coal is the maximum quantity in ordinary practice; that not more than 3½ lbs. to 4 lbs. of water are done by common coals, and 6½ lbs. is the usual rate for railway locomotives, what need could there be to add one word of remark to a table of practical experiments showing 13 lbs. for American rock oils, 15 lbs. to 17 lbs. for Burslem, and above 18 lbs. for the Torbane Hill oil?

"Taking the average evaporation effected by coal as 6 lbs., we may fairly urge that the best mineral oil, being three times as strong as coal in the quantity of heat it generates, and evaporating three times the quantity of water in the same space of time, is just as cheap as coal if it cost three times as much to distil it from the shale as it does to get the coal out of the earth, and convey to our furnaces. It is quite a mistake to say that, however valuable shale may be for the production of paraffin, it can never be a satisfactory substitute for coal. No one ever dreams of carting shale about with its great percentage of earthy base, any more than bones and coprolites are expected by farmers to be carted over their lands while chemists can supply them with superphosphate of lime. What men have been trying to do is to burn shale-oil; to get the oil away from the mineral base, and to have as little useless matter to carry about as possible. What has been done at Woolwich has been to burn such oil in a boiler-furnace practically, and to beat coal with it. It is no use any longer to question results. The mineral oil has been burnt for days together, just as it might be burnt for months together, and it has raised steam effectively, efficiently, quickly, steadily, and continuously. It is now only a question of time how soon the world will accept the fact, and engineers begin to employ it. Already oil-works are dotting with numerous manufactories considerable regions in England, Wales, and Scotland, and our shales and bituminous rocks are being fast brought into commercial use. Evident it is that great will be the future supply when oil is admitted as the best steam-fuel—a fuel that our factories will burn day and night with only a flickering glimmer of hot air from their chimney-tops. Ships will carry the oil in tanks, and stow it in the bilge-ways under the lower decks, and in otherwise useless spaces, pumping it as wanted; all the labour of moving coal, all the dust and dirt from coal will be avoided, and every drop of oil will be consumed, and there will be smokeless fires ashore and afloat. As with coals, so with oils, there is a difference of quality, and it is not a little remarkable that England, possessing the superior qualities of the first, should possess also the best of the latter. While the American oils will touch 18 lbs., nearly all the English ones exceed them, and the Torbane Hill oil will go nearly, if not quite up to 20 lbs.; and here we would hint to oil-distillers that their present crude oils and the veriest tarry refuse will have as fuel a value in the market, for most of them will do as much as ordinary coal."

The death of Dr. Von Siebold deserves a record in our pages, for his botanical researches yielded many additions to our floral riches from Japan. He died at Munich, aged 71.

WORK FOR THE WEEK.

KITCHEN GARDEN.

THE continued wet weather has completely saturated the soil, and rendered its cultivation a matter of great difficulty. Every gardener must be convinced, after such a season as this, of the advantages of thorough drainage both as regards the ripening of the wood of his fruit trees and the state of his crops in the kitchen garden. Keep the heaps of compost well turned over, as the time is approaching when every advantage must be taken of frosty mornings to wheel it over the land. As a general rule, ground that is very deeply trenched should be manured after the trenching, and the manure forked in, except in the case of fusiform-rooted plants, which will require the manure to be trenched in deeply, and not incorporated with the surface soil. Trenching all vacant quarters must be vigorously followed up, taking care to turn in all green and decaying refuse. *Broccoli*, lay down the tall-growing varieties. *Cabbages*, keep the fork at work amongst the beds, and prick out all spare plants into a reserve-bed. *Carrots*, take up and store them, also *Red Beet*, taking care not to bruise the roots. *Cauliflower*, continue to store the best heads, and, if not already performed, plant out the strongest Cauliflower plants under hand-glasses, and see that those in frames have abundance of air. Keep the surface stirred, and give occasional dustings with quicklime; if there be any plants to spare, they may be pricked in close to a south

wall. The same remarks will apply to Bath Cos Lettuce, which will require similar attention. *Endive*, it may be taken up by the roots, and either planted in a frame, or in any shed where protection can be afforded. Good sound heads of Bath Cos Lettuce will also keep for a long time in this manner, or under a frame. Make a sowing of Peas and Beans.

FRUIT GARDEN.

Proceed with former directions as regards planting out fruit trees of all sorts. Go over Peach and Nectarine trees occasionally, and brush off the leaves, which will afford the wood a better chance of becoming properly matured. Cast an eye over the trees in the orchard, and see if there is a necessity for a judicious thinning-out of the branches. The excessive rains we have had of late have rendered the operation of planting on stiff and tenacious soils impracticable for the present—that is, ordinary planting; but where planting extraordinary, such as the removal of large trees, is to be carried into effect, that may be proceeded with where the soil has been properly chopped and mixed, and, of course, left on the margins of the holes in sharp or pointed ridges to throw off the wet.

FLOWER GARDEN.

Where the land is not too wet alterations of ground and planting should be carried on with dispatch, but on no account attempt planting when the soil is in a state of puddle. The drier soil is when placed round the roots of newly-planted trees and shrubs, provided they are judiciously watered in, the sooner they will emit fresh roots. Mulching is, however, requisite to keep out frost, and earlier in the season to prevent evaporation. As tree leaves are always in request, either as fermenting material or for leaf soil, they should at this season be carefully collected. If they are required only as a manure, they may be stored away in any by-place, and left to rot; but if, as is generally the case, they are in demand as a cheap mode of furnishing bottom heat to Pines, as well as for forcing different kinds of vegetables, some pains should be taken to keep them dry. For this purpose they could be stacked up in some back place, or behind the garden walls, where access can be had to them at all times, and after allowing time for them to settle, put on a coat of thatch to effectually secure them from rain. By these means they will be found in a state fit for use for a twelvemonth hence. Roll and cleanse lawns from wormcasts. Lime water may be employed to destroy worms, if too numerous. Transplant Sweet Williams and single Wallflowers into borders, plant out bulbs, and examine those previously set. Mice are particularly prone to destroy them. See to even small plants being secured against wind, for these are often greatly injured by being blown about after planting, which a small stake and a few minutes' work would prevent. Secure a stock of Briars for budding upon next season. Let the roots be well trimmed, cutting back closely the old ones; for these, if left, will be of little use except to furnish an endless supply of suckers. Look over the herbaceous borders, and make any projected alterations there, taking up and dividing any of the coarse-growing plants that may be inclined to encroach too much upon their neighbours. The modern system of gardening is fast driving this class of plants out of cultivation; but many of them are really beautiful, and if they were more largely grown our gardens would not have that naked appearance in spring which is too often seen. Sweep and roll grass frequently, and keep gravel walks hard and smooth by frequent rollings.

GREENHOUSE AND CONSERVATORY.

Attend to the last week's directions as to guarding against damp, giving air freely when the state of the weather admits, and use fire heat only when it is indispensable, and then as sparingly as may consist with safety. It will probably be necessary to subject many plants to gentle forcing in order to secure a constant succession of bloom for furnishing the conservatory, for few plants will make much progress at this season unless encouraged with a temperature considerably warmer than would be required to keep them in health. Where forcing must be resorted to, exercise foresight, and endeavour to avoid having to subject the plants to a very high temperature, which is very injurious to many things, and the flowers cannot be expected to last so long as if they were developed in a temperature more suitable to the habit of the plant. Look over the plants in the greenhouse frequently, and examine very closely all that are liable to suffer from mildew and damp, such as *Lechenaultias*, *Boronias*, &c., for a short neglect will sometimes result in the disfigurement of a promising plant. The *Boronias*, *Lechenaultias*, *Gompholobiums*, &c., are very impatient of exposure to cold drying winds, and if they must be

wintered in the same house with the hardier kinds of greenhouse plants, they should occupy a position where they will not be exposed to cold draughts, but air must be admitted by the top sashes freely on fine days. Young specimens of *Azaleas* which have been growing in heat had better be removed to a cool house for a few months, which will cause them to start more freely in spring. Keep *Cinerarias* and other softwooded stock clear of the green fly, and endeavour to secure stocky plants by affording them sufficient pot room. *Cinerarias* are rather liable to be attacked by mildew at the present season, and if this enemy make its appearance, apply sulphur immediately it is perceived.

STOVE.

Now that that we have short dull days and long nights, great care must be taken with all plants that have completed their growth, they must be kept free from all excitement and pretty dry at the roots. This applies to *Cynocheds*, *Catasetums*, *Phajus albus*, *Cyrtopodium*, *Peristerias*, *Oncidiums*, and most of the *Dendrobiums*. Look well to all growing plants, see that they do not suffer from want of water, use the syringe but partially, and look to all small plants growing on blocks or in baskets. Repot or surface-dress all that require it and are starting into growth. Keep the temperature of the house at from 55° to 70°, and never let the air become too dry. Of course, all shading is discontinued, and all lights should be washed in order that the plants may enjoy as much light as possible. Keep a diligent look-out for all kinds of vermin, let all be neat and clean, and arrange the plants in the most effective order.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

THE work here has been much the same as in previous weeks. Had some refuse ashes from the mansion riddled whilst dry to place round Celery in course of being earthed-up, as the soil is wetter than we like it for that purpose, and we must now be prepared for frost, which is almost sure to visit us on clear nights and clear mornings, after such continuous rains as that of last Tuesday. So long as the moon is on the wane, we are also more liable to have frost in the morning than in the evening, and this renders more protection necessary at night than would otherwise be required, and especially when, as in our own case, most of the half-hardy plants have not yet been placed in their winter quarters.

FRUIT GARDEN.

Planting Fruit Trees.—Planted dwarf standard or pyramidal fruit trees on raised platforms. We have no fault to find with tall standard fruit trees for orchards, but they will soon be banished from regular kitchen gardens. Planted in quarters they sadly interfere with cropping and the healthy growth of all beneath them; and then they are difficult to manage, give much trouble to gather the fruit from them, and are very liable to have the fruit all blown down, this, too, being more bruised and spoiled in kitchen and fruit gardens than when thrown on the grass in an orchard. Nice dwarf bush or pyramidal trees, whether in rows by the sides of the walks or in quarters by themselves, interfere less with the general cropping, and may be examined and the fruit gathered even by ladies and gentlemen without any trouble, or the necessity of either shaking or of using ladders.

Where there is a hungry gravelly subsoil, or a cold tenacious clay, the trees will do better when raised on little mounds above the surrounding level; and if the bottom of the platform is paved or concreted to prevent the roots going down, they will be still more easily managed. The cheapest plan is concreting after the ground is well firmed beneath, which concreting may be done from 3 to 4 inches thick by mixing six parts of clean sandy gravel with one of fresh lime, using enough of water to mix, and laying it down directly. Such a platform should be about 5 feet in diameter and highest in the centre, and when well set should be covered, when the trees are planted, with from 16 to 24 inches of soil. A platform will render root-pruning more easy, and the roots being forced at first to take a horizontal position, will be more inclined to continue in that direction if moisture is secured at the surface by mulching. The roots are more easily pruned round the platform. Without such a bottom strong perpendicular roots will have to be cut at times, and with more labour to get under the tree. The planting on a platform some 12 or 15 inches, when finished, above the surrounding soil, makes that, too, more easy, as a deep trench is not required. Heavy crops, a little root-prun-

ing, and surface-mulching, will generally keep such trees healthy, fertile, and not over-luxuriant. Anything that interferes with the usual crop, such as the buds being destroyed by birds, is apt to make the trees too luxuriant in a subsequent year, and consequently encourage them to make more wood than will be thoroughly ripened, and in that case as much root-pruning as will curtail the vigour will be of importance. If that were done in September it would tell upon the next year's crop. If not done until now it will affect the crop of next season but little; yet it will check luxuriance, and it is better to root-prune now than in spring, as the fresh roots will be forming during the winter, and therefore the check will not be unduly felt. Just like autumn planting, autumn root-pruning is better than spring root-pruning; but when that pruning is to tell in the first season it should be done early, and enough to check growth, but not to cause the leaves to flag or the wood to shrivel. When these signs appear the syringe and a little shade should be used in bright days.

Cleaning Houses.—In some wet days this has been the principal work. Of late we have been little troubled with insects, but it is always best to lean to the safe side. A Peach-house and vinery have been nearly finished for winter work. The first proceeding is to clean the glass, and that is best done when the sashes can be taken off—that is, if the roof is not fixed. Owing to the wet, drizzly season, there is a great amount of green slimy matter outside the glass, where the roofs are at all flat, and we must clean that off as well as we can with long-handled brooms and plenty of water. We shall not have too much light in winter. The inside is easily cleaned when there is room. For the glass and painted sash-bars and rafters, nothing is better than clear warmed water, syringing the roof all over first, so as to soak and loosen all green and dirty matter. A piece of yellow soap as large as a walnut in three or four gallons of water will do no harm, and will soften the dirt; but more would be apt likewise to soften the paint and the putty; and soft soap, in consequence of potash forming a part of it, would be more dangerous to the paint than common soap, which has soda for its alkaline constituent. When the paint is old and very hard, with a smooth surface, a little soap water will do no harm, but when exposed to a damp, misty vapour, the soap will be more telling.

The glass and woodwork cleaned, the next step was to clean the pruned Vines and Peaches, washing them well with soap and water, and then syringing them all well with warm water, as hot as it could well be put on with the syringe, and letting the water strike against the walls of the house, shelves, stages, &c., so as to well penetrate into every cranny. The Vines and Peaches were then painted with a composition, of which clay, sulphur, and a little soft soap, and lime and soot, formed the chief parts, and we often question whether clay paint alone would not be as good as any of our mixtures for shutting up from the air diminutive eggs of insects which the brush and syringe have failed to reach. In washing the wood, and painting it, it is important that the brush should never turn back on the buds, but should always go from the base to the top of the shoots. In putting on the smothering paint, it is best to keep the palm of the hand below the shoot, as the brush is used with the other hand, and as the palm of the hand will be well filled with the paint, the whole of the lower part of the shoot will be smeared and soaked, as well as the upper part. This, of course, insures the one hand having plenty of the smothering paint; but those who are precise as to what their fingers touch should let gardening alone.

For colouring the walls, after being washed down, nothing is better when applied yearly than fresh lime, with a portion of lamp black or blue black mixed with it, to tone down its whiteness a little. Our lime is not so fresh this season as we would wish. When the fresh lime is slaked, and then made up with hot water instead of cold, it will stick almost as firmly as paint to a good wall that has been damped, and has become nearly dry. We often at the putting on mix a good deal of sulphur with the limewash, and if we do not do so, we paint the parts most exposed to the sun with sulphur paint in spring or summer, using soft soap in the water.

Glass, rafters, trees, walls, trellises, stages, &c., being thus cared for, then the last proceeding, if the floor is of earth, is to scrape off a couple of inches of the surface soil, and remove it to the burning-heap, slightly fork the surface, and water where it is dry. Then, if we can make it convenient, we sprinkle it all over with warm water, to destroy any stray insect's eggs or larvae that might be left on the surface, and put on a thin covering of dung, as spent Mushroom dung, and then an inch or two of

fresh soil, as dry as possible, as the floor as well as the shelves will have to store many plants for a few months in winter.

The Fig-pit, with the trees grown in rough bush-fashion, has been cleaned all to the painting of the shoots. This has not been done for many years, but as a little scale showed this summer we will paint the shoots in addition to washing them. The fruit on the trees out of doors are now over, or nearly so, and the leaves have mostly fallen.

ORNAMENTAL DEPARTMENT.

As soon as houses can be cleared, all bedding plants, except *Calceolarias*, will be better for a few months in winter of being placed where a little dry heat can be afforded as wanted.

Finished putting in *Calceolaria* cuttings last week in the pit previously described, and at present nothing can look better. This season there was an unusual difficulty in obtaining stout, short, firm side shoots, and we were forced to use the points of stronger and more succulent shoots, but we would much rather have had the stubby side shoots if we could have obtained them.—R. F.

COVENT GARDEN MARKET.—NOVEMBER 3.

LETTUCE or no alteration has taken place here during the week, as the supplies both of fruit and vegetables are well kept up. Potato trade heavy with large stocks on hand. Prices about the same.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	2	0	8	0	Melons..... each	2	6	0	0
Apriocots doz.	0	0	0	0	Nectarines doz.	0	0	0	0
Cherries lb.	0	0	0	0	Oranges 100	8	0	12	0
Chestnuts bush.	12	0	14	0	Peaches doz.	6	0	12	0
Currants ½ sieve	0	0	0	0	Pears (dessert) doz.	1	0	2	0
Black doz.	0	0	0	0	kitchen	dos.	1	0	0
Figs doz.	0	0	0	0	Pine Apples lb.	8	0	6	0
Filberts lb.	0	6	1	0	Plums ½ sieve	10	0	0	0
Cobs 100 lbs.	0	6	1	0	Quinces ½ sieve	5	0	0	0
Gooseberries quart	0	0	0	0	Raspberries lb.	0	0	0	0
Grapes, Hothouse lb.	2	0	0	0	Strawberries lb.	0	0	0	0
Lemons 100	8	0	14	0	Walnuts bush.	10	0	20	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes each	0	2	0	4	Leeks bunch	0	5	4	0
Asparagus bundle	0	0	0	0	Lettuce per score	1	0	1	0
Bacon, Broad bushel	0	0	0	0	Mushrooms pottle	1	0	2	0
Scarlet Runners sieve	2	0	2	0	Mixed & Cream, punnet	0	2	0	0
Beet, Red doz.	0	0	0	0	Onions doz. bunches	4	0	5	0
Broccoli bundle	1	0	1	0	Parley doz. bunches	2	0	3	0
Brus. Sprouts ½ sieve	2	0	2	0	Paranips doz.	0	0	1	0
Cabbage doz.	1	0	2	0	Pears per quart	0	0	0	0
Capelous 100	2	0	4	0	Potatoes bushel	2	0	4	0
Carrots bunch	0	4	0	0	Kidney	do.	8	0	4
Cardiflower doz.	2	0	0	0	Radishes doz. bunches	0	6	1	0
Celery bundle	1	0	2	0	Rhubarb bundle	0	0	0	0
Cucumbers each	0	4	1	0	Savoy doz.	0	0	0	0
Cucumbers doz.	0	0	0	0	Sea-kale basket	8	0	4	0
Endive doz.	2	0	0	0	Shallots lb.	0	0	0	0
Fennel bunch	0	2	0	0	Spinach bushel	2	0	0	0
Garlic lb.	1	0	0	0	Tomatoes per doz.	1	0	2	0
Herbs bunch	0	2	0	0	Turnips bunch	0	4	0	0
Horseradish bundle	2	0	4	0	Vegetable Marrows dz.	0	9	1	0

TRADE CATALOGUES RECEIVED.

William Chater, Saffron, Walden.—*Catalogue of Hollyhocks and Roses.*

Benjamin Whitham, Reddish Road Nurseries, Stockport.—*Catalogue of Forest, Fruit, and Ornamental Trees, Herbaceous and other Plants, &c.*

TO CORRESPONDENTS.

. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Book (S. D. K.).—There is no such periodical. "The Garden Manual" can be had free by post from our office if you enclose twenty postage stamps with your address. It contains what you require.

QUEEN ANNE'S POCKET MELON.—"You say that it is of fine flavour. I have grown it for fifteen years, and find it one of the third-class kinds, although it merits everything else that you say in its favour. I find it very useful as a substitute for Peaches, &c. It may be grown in a 12-inch pot, and produce from twelve to twenty fruit from one plant. I have often shown it, but never obtained a prize for it, owing to its inferior flavour. It always had its share of attraction from the beauty of its colour, and I wonder that it is not more commonly grown.—ROBERT HAWKINS." [We take this opportunity to express our regret that so many applicants for the seed of this Melon had to be disappointed. Although we sent only two to each applicant as soon as we found the largeness of the demand, our supply was exhausted in two days, and hundreds of letters had to be returned with no other reply than "Not a seed left."—Eds.]

VARIEGATED-LEAVED VIOLET (G. C.).—We never saw a variegated-leaved blue Russian Violet. The gentleman you name is in ill-health.

SHOW GOOSEBERRIES (H. R. H.).—*Red*: London, Wonderful, Conquering Hero. *Yellow*: Criterion, Drill, Leveller. *Green*: General, Green London, Thumper. *White*: Antagonist, King of Trumps, Snowdrift.

HYACINTH POTS.—"In reply to 'J. M.' and others, Hyacinth pots of a very superior description may be bought of Messrs. Adams & Co., Manufacturers, Shelton, Staffordshire. They are made of a much better clay than usual, and being turned are perfectly smooth. The shape, too, is an improvement upon the old straight-sided pot with a rim round the edge, being made without one, and slightly flanged. Size $7\frac{1}{2}$ inches high by $5\frac{1}{2}$ inches wide. Price, with stand, 8d. each at the manufactory. They have been generally admired, and tend to add to the effect of these beautiful bulbs.—AN OLD SUBSCRIBER."

PLANTING A LIME TREE AVENUE (Ignoramus).—"You may safely plant Lime trees 10 or 12 feet high, if they have been removed within the last two years. When the trees are taken up be careful in securing all the roots, and spread these out at their full length in replanting. Secure the plants from being shaken by winds for the first year, by stakes or other means. You may plant as soon as the leaf falls in autumn, and the mode you propose will do very well—viz., allowing 100 feet between the rows, and 85 feet from plant to plant, and as you contemplate a second row on each side, this row may be planted as you propose in triangles of 85 feet. If you have to select your trees from a nursery, choose such as have been standing a good distance apart, for those which are drawn up from being too close together are apt to become crooked when turned out into open quarters. A distance of 100 feet is not too much for an avenue. We have an avenue of Elm trees very similar to the one which you propose making; there are two rows on each side, the trees being about 80 feet apart in the rows, and the inner rows 90 feet asunder, and their tops have met in several places. The trees, however, are large ones, and have grown much during the last twenty years.

WALL PEACH, APRICOT, AND PEAR TREES MEETING ON A WALL (O. P.).—"The trees having covered the wall, your only plan is to keep them closely pinched; in spring allow the shoots to make three leaves, then pinch out their points, taking out the point of the lateral growth when it has made one leaf—in other words, stop all the growths that come from the wood of previous years at the third joint, and the shoots from the those once stopped at the first joint beyond the first stopping. This plan will keep your trees plentifully furnished with spurs and fruit-buds, and prevent their energies being expended on useless wood, at the same time admitting sun and air to the fruit. Allowing the shoots to grow in summer affords work for the knife in winter, and wastes the energies of the trees, as the growths rob the fruit of support, light, and air, and prevent the fruit-buds ripening. The more a tree grows the less it will fruit.

WINTERING VERENAS, CALCEOLARIAS, AND CINCERARIAS (O.).—"We fear that in an unglazed pit you will not be able to afford the plants a sufficient amount of light when the weather is mild, nor when it is cold and yet not so frosty as to render it advisable to keep the plants closely covered up. In addition to protection from frost, they require light and air, and that we fear you will not be able to give them, as your calico covering is not sufficient to keep off rain, though it would answer for protecting them from cold winds.

HOTBED MANURE FOR PELARGONIUMS, &c. (J. K. D., North of Ireland).—"Your manure three years old, taken from a Melon-bed, now so decayed and dry as to be easily sifted through a fine riddle, is excellent to mix with soil for Pelargoniums and Fuchsias. A very good compost may be formed of equal parts of loam, leaf mould, and decayed manure, with one-sixth sand.

EVERGREENS UNDER TREES (H. A.).—"We find nothing equal to Aucuba japonica, Common Laurels, Yew, Holly, St. John's Wort, Alexandrian Laurel, Berberis Darwinii and aquifolium, Evergreen Privet, Laurustinus, Periwinkles, and the different kinds of Ivy. The last two are excellent for surface-covering.

OLD PLANTS versus CUTTINGS OF PELARGONIUMS (Fred).—"Old plants on account of their size, less vigorous habit, and early flowering, are to a certain extent preferable to cuttings, but they have not that freshness of foliage which a young plant always possesses as compared with those which are older; besides, an autumn-struck cutting flowers nearly as early and as well as an old plant, and the trusses are larger.

GRASS EDGING (Idem).—"Your grass edging will cut clean if the walks be kept brimful of gravel, and the edges of the grass frequently rolled, so as to make them firm.

PLUNGING HYACINTHS (Idem).—"The Hyacinth bulbs will be much benefited after potting by being plunged in the open ground, and covered with cocoa-nut refuse for five or six weeks. They will do even better if plunged in a cold frame in cocoa-nut refuse and covered with 8 inches of the same, as then they will not be liable to be deluged with rain and to rot at the crown.

MANURING BEDS AND BORDERS (Idem).—"Now is a good time, and up to Christmas, for applying manure, as it becomes incorporated with the soil, and does not induce so rank a growth as if applied in spring. Another reason is, it may be used fresher now than in spring, and the fresher it is the more rich it will make the soil.

COMPOST FOR NEAPOLITAN VIOLETS (L.).—"Turfy loam from rotted turves two-thirds, and leaf mould one-third, with the addition of one-sixth of bone dust, will grow them well.

BACK NUMBERS (S. Rogers).—"You can have the Numbers published June 28, July 26, September 27, and October 4, 1884, if you forward sixteen postage stamps with your address.

IMANTOPHYLLUM, AGAPANTHUS, BELLADONNA AND GUERNSEY LILIES DONE BLOOMING (A. C. G. H.).—"Keep the first two in a greenhouse, giving no more water in winter than will keep the foliage from flagging. After flowering gradually withhold water if the bloom be in autumn; and in spring and summer, when in active growth, keep well supplied with moisture, the Agapanthus especially. The latter will do out of doors in summer, and in winter with moderate protection in sheltered situations. The Imantophyllum is a greenhouse plant, requiring a period of free growth and a season of dryness or rest, with abundance of light and air. The Belladonna Lilies should be kept on the shelf of a greenhouse, be under potted, and be plentifully supplied with water when growing. Always give as much water as to a Pelargonium, and never allow the soil to become dust dry. The Belladonna and Guernsey Lilies after blooming may be placed at the end of a cold pit, plunging the pots in coal ashes, and tilting the lights back and front, except when the thermometer falls 5° below freezing point; then shut up until there be a change of weather. Keep well watered from the end of February to the middle of May, and then close the frame, keeping on the glass, for you cannot make the place too hot. The best plan of all is to make a bed for the Belladonna and Guernsey Lilies in front of a stove or greenhouse. Let it be well drained, and deep, but with its surface above the surrounding ground level. Plant the bulbs, early in July, 6 inches deep, and the same distance apart, and give them a mulching of short litter in winter.

RESTING BEGONIA FUCHIODES (Idem).—"This, like every other plant, requires a season of rest, and that is after it has bloomed, and generally in winter. It is not necessary to rest it like other Begonias, by which we presume you mean keeping them dry in winter, for at that season we grow it on for blooming in early spring. Once a year, however, it should have a rest for three months, withholding water when we find growth arrested and the leaves becoming yellow. Water may be withheld from it to the extent of arresting growth, and yet not so as to cause the fleshy stems to shrivel. The plant will start again from or near the surface of the soil; then cut away the old stems, leaving a sufficient number of the young growths. To bloom, it requires a temperature of 55° from fire heat, with an abundance of light, air, and moisture. When at rest a temperature of from 45° to 50° is suitable.

LILIU LONGIFLORUM (G. S.).—"No good results from keeping the soil dry when Lilies have ceased flowering, though it should be drier than when they are growing, especially as yours are in an orchard-house where they will not be entirely secure from frost. Keep the soil moist. The young shoots are, as you conjecture, from the offsets, which you may remove and pot now.

BIGARREAU CHERRY UNFRUITFUL (An Inquirer).—"We think if you were to pinch in to three leaves all the wood shoots (except the leaders) which now attain 18 inches, and continue to do so throughout the summer, that the tree would bear plentifully. We recommend your trying this system next year, and we think vigour will be checked. If, however, after having done this, you find upon examination that the roots are deep, then we would take up the tree carefully, shorten the thick roots, and replant the tree with the roots nearer the surface, or even on the level, covering them with 6 inches of fresh soil. You may get rid of the caterpillars by syringing the trees with a solution of soft soap at the rate of 2 ozs. to the gallon of water, or a syringing with clear lime water will answer.

SEA SAND (A Subscriber).—"Sea sand well washed in fresh water will do instead of river sand to place round Hyacinth bulbs in the open air.

GRAPES SHANKING (A Subscriber).—"We think your proposed application of lime will be of little avail. A better plan would be to lift the Vines now, form a concrete bottom to prevent the roots going down, and on that place a foot of drainage; then, elevating the border well above the ground level, plant with the roots near the surface, mixing with the soil one part in four of old mortar rubbish. A covering of leaves or litter 18 inches thick placed on the border would do good, and by creating a gentle heat would promote root-action. If you use the lime, one cartload will be sufficient for the border.

MYRTLES INFESTED WITH THRIPS (South Devon).—"The sprig of Myrtle sent has been made white by thrips. Your remedy is to syringe the plants forcibly with soft soap dissolved in water at the rate of 3 ozs. to the gallon, applying it at a temperature of 120° . A few good syringings will soon clear the plants, and frequently syringing them in the evening in hot weather will generally keep down thrips. You may cover the ground now for a distance of a yard from the stem with leaf mould to the depth of 8 inches, which will be sufficient manuring.

SUCCULENTS FOR PLANT CASE (A. J.).—"We fear you are proceeding wrong altogether. No plants require so much light as these. We would advise Ferns, but to show our willingness to serve you, the following would no doubt grow well:—*Aloe maculata*, *A. tenuifolia*, *A. flavispina*, *A. dichotoma*, *A. glauca*, *A. spinosa*, *A. tuberculata*; *Haworthia parva*, *H. transvaalensis*, *H. hybrida*; *Cotyledon coruscans* and *canaliculata*; *Sempervivum rupifragrum*, and *cruentum*; *Mesembryanthemum marginatum* and *filamentosum*; *Mammillaria prolifera*, *M. tenuis*, *M. columnaris*, and *M. turbinata*; *Cereus speciosissimus*, and *C. flagelliformis*; *Melocactus amoenus*; *Opuntia fragilis*, and *O. mollis*; *Crasulula ciliata*, *C. acutiformis*, *C. versicolor*, and *C. cordata*; *Cacalia articulata*, and *Globulosa hispida*.

MAGNOLIA GRANDIFLORA (N. C.).—"We are not aware that the Magnolia can be grafted on any stock except one of its own genus, and propagation is much more certain and expeditious from layers.

APPLES AND PEARS (A. A.).—"Eight excellent and long-keeping Dessert Apples are Sturmer Pippin, Cockle Pippin, Court of Wick, Margil, Court Pendu Plat, Nonpareil, Scarlet Nonpareil, and Claygate Pearmain. Four excellent and keeping Dessert Pears are Beurré d'Arenberg, Zéphirin Grégoire, Joséphine de Malines, and Ne Plus Meurt.

GROWING GRAPES FOR PROFIT (H. W. C.).—"There can be no question as to hothouse Grapes being grown profitably. The chief essentials for success are:—1. That the grower should thoroughly know what he is about. 2. That a suitable market for this produce should exist, and the grower should know at what times this produce would be most remunerative; and 3. That the price of fuel and the expense of carriage should not be excessive.

MYATT'S EARLY PROLIFIC ASHLEAF KIDNEY POTATO.—Mr. H. Howell, Spring Grove, St. Lawrence, Jersey, wishes to know where he could procure a quantity, with price per sack.

VINE LKAY (H. P. Randall's Park).—It is difficult to identify, but it looks like one from West's St. Peter's.

PRUNING STANDARD APRICOT TREES (A. K. H.).—Our advice is, Do not prune them; but next year stop every shoot to within 2 inches of its base, and the resulting shoots to 1 inch as soon as they are 2 inches in length, and continue to do this throughout the season. If the shoots made this year are very long, they may be cut back to 10 inches in length. If the head is irregular and of bad shape, it may be thinned and regulated in mild weather early in February. Avoid the use of the knife, if possible, for severe winter pruning is the ruin of Apricot trees.

PLANTING RHODODENDRONS—LIST OF HARDY (Idem).—Rhododendrons may be planted at any time of the year except when frosty, but we prefer September and March. John Waterer, crimson; Lefevreanum, purplish crimson; Blandyanum superbum, vivid light crimson; Jenny Lind, rose; Macaulatum purpureum, purplish rose, much spotted; Lady Dorothy Nevill, purple, spotted black; Elysianum, white, margin crimson; Atror-sanguineum, blood red; Alarm, white centre, edged scarlet; Bryanum, rose scarlet; Blanche superbe, white; Comet, scarlet; Chancelor, purplish lilac, spotted; Barclaynum, reddish rose; Lucy Neal, claret, spotted; Victoria, plum; Madame Molan Carvalho, white; Neilsoni, rose lake; Maid of Athens, rose, brown spots; Sydney Herbert, crimson, blotch of black spots; Standish's Perfection, white, shaded pinkish lilac, blotch greenish yellow; Lady Lopes, rose, dark spots; and Toward, rosy lilac. All these are very hardy, blooming late (after spring frosts), of free growth, and have fine foliage.

MUSHROOM-BED IN THE OPEN AIR (Idem).—Your plan will not answer. You must make up a bed of horse-droppings and litter after the fashion of a Potato-hog, beating it firm, and having the materials thrown up to heat and turned over once or twice to part with their rankness. It should be beaten firm, and when as warm as new milk pieces of spawn should be inserted an inch below the surface, and 6 inches apart; and when the heat declines, place about 3 inches of soil all over, and beat firm. Cover with straw so as to keep out frost, employing the hurdle lined with straw to keep off heavy cold rains.

PASSION-FLOWER FOR SOUTH ASPECT (Idem).—Passiflora carulea is the only one suitable.

MRS. POLLOCK AND ITALIA UNITA PELARGONIUMS LOSING VARIATION (Idem).—The cause we are not able to explain, nor do we know of a remedy beyond growing in pots and keeping under glass constantly. The marking on the leaves will return with the fresh growth as it advances, unless the leaves have become green, when those shoots may remain green-leaved, but it is seldom that this is the case, or only a stray shoot now and then exhibits this peculiarity. You will find some excellent observations on preserving the colours in the leaves by Mr. Pearson in the first page of the present Number.

PLANTING CONIFERS AND EVERGREEN SHRUBS (G.).—If you have removed all the stumps and most of the thick roots of the old trees, you may safely plant the trees you wish; but they will be in danger of being attacked by the fungi which are generated with rapidity on dead wood, whether buried deeply in the soil or existing on or near the surface. There is, however, an equal probability that such a result may not follow. We remember a large plantation of Spruce, Scotch Fir, and Larch, that had been planted on the site of an old wood, and finer trees we never saw; and we know an avenue of Deciduous Cedar partly on the site of an old wood, and the whole of the trees grew well until they attained a height of 80 feet, when those growing where the old wood had been began to die back at the points of the branches, and to exhibit other tokens of decay. At last the trees were uprooted by a gale, and every root the thickness of the thumb was found to be white with the mycelium of some fungus, they and the thicker roots being as brittle as timber having the dry rot.

CONIFERS FROM CUTTINGS AND SEED (Idem).—Those from seed make the healthiest, the most vigorous, the best habited, and finest trees. A few, such as the Cupressuses, do well from cuttings, making fine trees; but we are so convinced of the great advantage a seedling possesses over a cutting, that we plant none but seedlings when we can obtain them.

MANURING RHODODENDRONS (J. C. B.).—Rhododendrons will bear manure; but beyond furnishing humus to the roots, as it, leaf mould, and other decaying vegetable substances do, there is no benefit in its application, as peat contains every requisite for their growth. Peat well mixed with the soil and copious supplies of water in dry weather will serve you better than applying manure. It is moisture that Rhododendrons require, and a soil that will retain it for their use.

APPLE TREES BLIGHTED (Devonensis).—From the appearance of the shoot sent we should say the trees are infested with the American blight (Aphis, or Eriosoma lanigera), one of the most injurious of the insects attacking the Apple tree. You say your trees have "the bark drying in spots about the size of half-a-crown;" that is canker; but the shoot you sent us is not cankered. "The wounds are edged with a substance like mildew; the small branches are eaten half through, like the piece enclosed." The white substance is the insect's white cottony covering. "Many shoots are quite dry and dead;" that is canker again. The American blight lodges in the crevices of the bark, appearing at first like a fine, white, cottony substance, but upon closer examination many small wingless insects will be observed. We find no remedy equal to syringing the trees with water, employing a powerful garden engine. This dashes the insects to the ground, and if the soil be hoed and raked they will be rendered incapable of further injury. The insect, in addition to attacking the branches, infests the roots, but near the surface. The only safe remedy in that case is to dig out the old soil for a distance of 2 or 3 feet from the stem, and after washing the roots with water, to wash them with soot and lime, brought to the consistency of paint with urine, replacing the old soil by fresh, and either burning the old soil or removing it to a part of the garden where fruit trees are not grown. It may be necessary to repeat the washing of the branches with water many times; but it is a certain and safe cure. We think the canker is produced by the dryness of the soil, and by pernicious substances in the subsoil. Your remedy will be to lift the trees and trench the ground 2 feet or 3 feet 6 inches deep; a considerable portion of the bad substratum will thus be turned to the top, where it will be next to harmless after exposure to the weather. When the roots reach the soil turned down from the top to the bottom, the trees generally thrive well afterwards.

GLAZING WITHOUT LAPPING (A. R. L.).—Glazing sashes 12 inches between the sash-bars, or any other width, without lapping, would be perfectly safe on Beard's system. When we tried it on a small scale by the ordinary mode of glazing, something like one or two per cent. of the squares were cracked by expansion. As you must place the glass closely, edge to edge, there can be no great expansion there without the squares being apt to crack each other. The only way by common glazing that you can help yourself is not to place the squares tightly, but to leave one-sixteenth of an inch play on each side between the rebates of the bars, and use rather soft oil putty with no white lead in it. But for the expansion there can be no question of the system answering. As it is, there is a little risk by the usual mode of glazing.

NAMES OF FRUIT.—(G. K. Sevensons).—Poor little wretch. It is not worth a name, and we do not recognise it. (A. D. A.).—Siberian Bittersweet. (Rev. W. Ager).—1, Winter Codlin; 2, Golden Noble; 4, Dumelew's Seedling; 5, Gravenstein; 6, Cox's Orange Pippin. Your Asparagus soil is too heavy, and requires draining. (J. A. Y.).—We cannot identify any of your three Apples. They must be local varieties. (M. B. Brighton).—Golden Monday. (Thomas B. Bristol).—1, Figue de Naples; 2, Verulam; 3, Beurre d'El. (Veritas).—Pears: 1, Flemish Beauty; 2, Gansel's Bergamot. Apples: 1, White Astrachan; 3, Monkton; 4, Hollandbury; 5, Winter Magnetin; 6, Lancashire Filbasket. (East Sussex).—The Grape is Frankenthal, and the Apples are—1, Golden Reinette; 3, Russet Table Pearmain. (H. J. C.).—3, Old Colmar; 4, Bezi Vnet; 5, Gilgil; 6, Calabasse; 7, Thompson's; 10 and 11, Beurre d'El; 12, No Plus Meuris; 13, Bezi de Caissey. (J. B.).—Apples: 1, Striped Beeding; 2, Hollandbury; 4, Hawthornden; 7, Lewis's Incomparable; 9, Winter Greening; 10, Scarlet Nonpareil; 12, Lord Duncan; 14, Nonpareil. Pears:—1, Beurre d'El; 2, Easter Beurre; 3, Duchesse d'Angoulême; 5, Beurre de Capiaumont; 6, Swan's Egg.

NAMES OF PLANTS (W. R. L.).—Specimen very withered, but we think it is Paspalum glauca; certainly not Rudbeckia Drummondii. (T. M.).—Conifers are very difficult to name from small fragments, but we think yours are—1, Cupressus Lawsoniana; 2, Thuja aurea; and No. 3 is Eucalyptus japonicus variegatus. (J. Englefield).—1, Hypolepis anthracifolia; 2, Litobrochia incisa; 3, Cyrtomium falcatum; 4, Adiantum, probably capillus-Veneris. (W. W.).—1, Pellaea hastata (?); 2, P. macrophylla; 3, Pelargonium quercifolium; 4, P. odoratissimum. The other specimens insufficient. (J. A.).—1, Echeveria canaliculata; 2, Iresine Herbstii; 4, Sedum Sieboldii. Send the others when in flower. (W. F.).—3, Adiantum, probably A. pedatum; 8, A. capillus-Veneris; 4, A. trapeziforme; 5, Pteris argyrea. (J. W. O.).—1, Selaginella, not sufficient to determine the species; 2, Pilea muscosa; 3, Cystopteris fragilis. (J. H. Boyes).—The Fern is correctly named, by some it is considered as a form or variety of Lastrea decomposita only. (Rufus Rex).—1, Adiantum cuneatum; 2, Pellaea hastata; 3, Pteris longifolia var. serrulata; 4, Pteris argyrea; 5, Nephrodium exaltatum; 6, Adiantum formosum.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending November 3rd.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 28	30.177	30.083	56	34	53	53	N.	.00	Slight rain; very fine throughout.
Mon. . . 29	30.505	30.913	52	35	51	53	S.W.	.01	Hoar frost; clear; overcast; fine at night, barometer very unsteady.
Tues. . 30	30.896	30.708	56	29	53	51½	S.	.06	Boisterous, with rain; fine at night.
Wed. . 31	30.081	30.020	55	29	53	51½	W.	.00	Clear, quite cloudless; fine at night.
Thurs. 1	30.947	30.854	54	43	51½	51½	S.W.	.04	Overcast; uniformly overcast; rain at night.
Fri. . . 2	30.708	30.789	61	46	50½	51½	S.W.	.01	Hazy, with slight drizzle, dark heavy clouds; fine.
Sat. . . 3	30.808	30.651	58	30	49½	51	S.W.	.08	Cloudy; rain; cloudy; fine; slight frost at night.
Mean	30.596	30.589	56.00	38.57	51.21	51.57	..	0.15	

POULTRY, BEE, AND HOUSEHOLD CHRONICLE.

NON-ORNAMENTAL POULTRY.

I CAN readily endorse the opinion of "G. R. B." (page 321), on the remarks of "NEWMARKET" in your Number of Octo-

ber 16th, but only wish that he had gone still further into the matter, as I consider "NEWMARKET" undervalues some of our finest breeds of poultry. His first attack is upon Dorkings, which I think is most unjustifiable, as they are considered by many the fowl of fowls; but as "G. R. B." has given him a good reply, I will leave them.

His next is the Spanish, but it is of a more moderate tone.

He says, "These are prolific, but possess no great beauty." Now as far as their beauty goes I certainly cannot agree with him, for I think there cannot be a more majestic or beautiful bird than a Black Spanish cock in full plumage, with his splendid white face, looking like a gentleman in full dress for a ball-room. The Black Spanish are termed by some "the aristocracy of poultry." I quite agree with him as to their constitution being rather delicate.

We now come to Cochins and Brahmas, which he says, "are large, awkward, clumsy, ugly, heavy birds, and all of eastern origin." Alas for poor Cochins, as far as "NEWMARKET" is concerned! Any one never having seen them, but reading his description, would exclaim, "What monsters!"—but I am happy to say that a great many breeders of Cochins and Brahmas cannot readily agree with the opinion of "NEWMARKET." I would ask him whether he has never observed that mild and docile expression which amounts to intelligence in the Cochin hens, and the stately walk and noble appearance of the cocks? Again, what is more beautiful than a Partridge Cochin cock, with his jet-black breast contrasting with the splendid golden colour? He says, too, they are quite unfit for table; rather a bold assertion, as I supped off a splendid pair of cockerels a few days ago, when I did not find their flesh yellow, but quite the reverse, it being perfectly white; their skin is yellow, but flesh and skin are two different things. I should not have mentioned the table properties of these birds, had he not said they were unfit for table. As to their decreasing in popularity, a close observer at our great shows would not think so.

Now for those gems the Hamburgs. "NEWMARKET" says, "but their beauty is so far eclipsed by that of the Game fowls and the Bantams, that they can hardly be considered as ornamental poultry." Mr. Baily, of London, one of our greatest authorities on poultry, describes them as being "Very handsome birds, unusually good layers, bear moderate confinement well, do not sit, most attractive on lawns or at lodge gates." What a character for birds which are considered non-ornamental. I certainly think that both the Pencilled and Spangled varieties are far superior to either Black or White Bantams, and quite equal to the Game Bantams. The Sebright Bantams are really beautiful, but in my opinion Hamburg hens can in no way be surpassed by Game hens.

Malays are certainly not over-handsome, but let us not despise them, as they belong to a very useful class of poultry, and will thrive and do well in any little back yard.

Last, but not least, are Turkeys and Geese, which he describes as the ugliest of all poultry. Now I would ask "NEWMARKET" whether he has ever seen a splendid flock of Cambridge Turkeys in full plumage; if so, I can hardly think he would class them amongst the ugliest of poultry. Surely, according to his views, the Editors of the "Poultry-Keepers' Manual" must have had very bad taste in choosing a Turkey cock for their frontispiece, but not so according to mine, as I think nothing can be handsomer than a fine Cambridge Turkey cock, with his rich bronze plumage and noble carriage.

I think that fine bird the Goose claims a little consideration. In a farmyard or any other place where there is a pond and a grass field, Geese will, I think, be an ornament, but especially in a farmyard; and I would ask "NEWMARKET," What looks better than a goodly train of Toulouse or Embdens? "NEWMARKET" must not think I disparage Game fowls, for I am a breeder and an admirer of them. My present purpose is to do justice to those breeds which he would depreciate, or even blot out as non-ornamental poultry.—JUSTITIA.

DORKINGS.

I CAN fully endorse all that is said about Dorkings and their qualities as good layers, sitters, and mothers. It is more than unnecessary to say anything about their merits for the table. They fatten readily while very young, the great weight of the food they afford is composed of that with which "rinderpest" has made us all familiar—viz., prime joints. The fibre of their flesh is so delicate, that they may be said to have no coarse meat, and the symmetry of their bodies is such that when the cover is removed, and a boiled one is seen of ivory-whiteness, or a roasted one with the same pure colour peering through the delicate and golden skin, either would seem to "give the world assurance of a fowl." I believe no fowl is equal to the Dorking for the table. Its detractors say it is delicate, but what proof have we? In all parts of England it thrives and

finds its primarkness. Lancashire has long been celebrated, not only through Admiral Hornby, but all over the county. Derbyshire and Warwickshire also are always in the van; Scotland has produced numbers of perfect birds, and does so still. The entire supply of the best and choicest poultry in the London market is due to this breed, and is continuous throughout the year, proving that with moderate painstaking there is no delicacy of constitution that cannot be overcome.—HAND-CROSS.

THE DIFFERENT VARIETIES OF GAME FOWLS.

1.—BLACK-BREADED REDS.

BLACK-BREADED Red cocks are of two colours—the light clear-hackled, and the darker striped-hackled.

The hens are of three distinct colours—viz., 1, The Partridge-coloured (the original wild colour). 2, The fawn-breasted Dark Brown. 3, The Cinnamon-coloured. The first two are striped-hackled, and the last sort clear-hackled, breeding clear-hackled cocks.

Of eyes and legs there are various colours—the red eye, the yellow or daw eye, bay eyes, and light brown eyes. There are also willow legs, white legs, blue legs, yellow legs, asparagus legs, and dark or blackish legs.

Classed by eyes and legs of different colours, there are fourteen different varieties of Black-breasted Reds. The willow-legged birds are the most common, and the favourite birds for exhibition, these and the Brown Reds taking more silver cups than any.

2.—BROWN REDS.

Brown Reds may be divided into four varieties:—

1. Red Brown-breasted cocks, with the dark brown hens and the blackish-coloured hens, both with the dark coppery-red necks. Dark or black legs.

2. Throats-breasted cocks. These generally have a cross of the Black-breasted Red in them, but have the same coloured hens and same coloured legs as the first sort.

3. The Ginger-breasted ginger Brown Red cocks with a lighter and more yellowish feather. Hens either of a ginger brown-red colour, or blackish with yellow necks. The legs of these are generally dark olive green.

4. Throats-breasted, willow or dark olive-green legs. Hens of the same colour as the first-mentioned birds.

The first-mentioned birds with the dark brown hens are the parent stock of all the Brown Reds. The others all result from crossing. The eye in the Brown Reds is not jet black, but has a shade of brown in it. The Brown Reds dispute the pre-eminence at all exhibitions with the willow-legged Black-breasted Reds, with which birds they have been much crossed at times.

In crossing Brown Reds and Black-breasted Reds together for exhibition, the Black-breasted Red gives the better and brighter colour, and the Brown Red the sharper and longer head, and the loftier and more commanding shape and carriage required.

3.—DUCKWINGS.

These, as already mentioned, are of four sorts, besides which there is the Mealy or Silver-Grey variety.

1. Willow-legged, red eyes.
2. Blue-legged, red eyes.
3. Yellow-legged, yellow eyes.
4. White-legged, yellow eyes.

All these were bred originally from different varieties of the Black-breasted Reds. The yellow-legged were bred from the Grey Duckwing hens, crossed with the Black-breasted cock, and then with the Yellow Birchen cock. The Mealy Greys were mostly bred from the Blacks crossed with the Mealy Whites, and the grey colour inclines to prevail much less in the cocks than in the hens, the cocks in all the Grey sorts being always less grey than the hens are. All Greys are bred more or less from the Red varieties. The willow-legged are most common and are the best birds, and they are the standard Duckwings everywhere.

4.—THE PILES.

These are of four sorts as generally classed:—

1. The Cheshire Pile, red eyes, white legs.
2. The willow-legged Pile, red eyes.
3. The blue-legged Pile, red eyes.
4. The yellow-legged Pile, yellow or daw eyes.

The first-mentioned is by far the best bird, and is the true standard Pile, and the quickest and most active, and lightest

in flesh of all Game fowls. Willow-legged Piles are from willow-legged Black-breasted Reds, and blue-legged Piles from the blue-legged Black-breasted Reds; in fact, all the Piles are originally from Black-breasted Reds. The yellow-legged Piles are the worst of all, being the least courageous, scarcely standing steel. The willow and blue-legged are both inferior birds, though more spirited than the daw-eyed Piles. The Cheshire Pile has been much crossed with the Brown Red, this being the older cock-fighter's favourite cross of all.—**NEWMARKET.**

(To be continued.)

REARING CHICKENS ARTIFICIALLY.

I beg to offer, for the benefit of your subscribers, my experience of hatching chickens by incubators. The incubator I have made use of is Messrs. E. & J. Crook's, of Carnaby Street. It is inexpensive, extremely simple in its construction, and perfectly free from any unpleasantness in its appearance and use, so much so that it may be used in any sitting-room without inconvenience. Messrs. Crook have published rules for the management of their incubator, and I can safely say that by strictly adhering to them success is certain.

I have found little difficulty as regards rearing the chickens with the assistance of an artificial mother for warmth, and an enclosed yard for the chicks to exercise in. Both the incubator and artificial mother were supplied by the same firm.

Of course, taking upon one's self the duties of a hen occasions trouble to the breeder, but *rien sans peine*, and I firmly believe that stronger and finer chickens may be reared under this system than by leaving them with the hen. However, those who dislike trouble will do well to give a sitting of eggs to a hen or two at the same time as they fill the incubator, and make the hens take the charge of all.

I exhibited at the Southampton Poultry Show some Crève Cœur chickens hatched and reared entirely without a hen. The birds were strong and well developed for their age, but being hatched very late could not compete with older birds.

I have hatched Ducks with equal success, and have found the incubator especially useful in saving the life of many a chick when the hen has only partially hatched a sitting and deserted the rest of her eggs.—**CRÈVE CŒUR.**

BRAHMA POOTRAS.

PERHAPS you will allow me a small space in your columns to enter my protest against the unreasonable and unfounded condemnation passed by "NEWMARKET" on Brahmas, in your Journal of the 18th of October, and the disadvantageous comparison of them with Game fowls, for the latter, *perhaps* having some good qualities, can scarcely possess every merit, and no weak point; and while to their admirers they may appear very handsome—indeed, the climax of gallinaceous beauty—with their raw heads, and vicious, pugnacious expression—there are others of us who cannot be so enraptured over the heroes of the cockpit, and who do not choose to consider all other fowls as "awkward," "clumsy," and "ugly."

"NEWMARKET," no doubt, is a most accomplished critic of Game fowls, and is quite at home when pointing out the qualifications necessary to constitute a good bird; but from his remarks upon Brahmas, I am induced to say *ne sutor ultra crepidam* is a motto he would do well to consider before he again pronounces judgment on a variety of fowls that is now deservedly becoming one of the most popular and most admired. Let us see how far the opinions expressed are borne out by fact. That Brahmas are large and heavy there is no question, and I should say, *ceteris paribus*, the larger and heavier a fowl is the better; but because a bird is large and heavy, it is not a consequent condition that he is also awkward and clumsy; and we find that while Brahmas are the one, they are not at all the other—on the contrary, possessed of a majesty of carriage that no other sort can claim. It is admitted, that they are abundant layers, and that alone is not a small feature in their favour, especially when we consider that a Brahma hen will lay in a year twice the number of eggs that a Game hen will; and if you set her to hatch her eggs she proves herself to be the best of mothers, and will rear a brood of chickens that will flourish and thrive when and where your Game chickens would be dying through cold and damp. Brahmas are, according to the testimonies of the most experienced persons, the hardest of all the domesticated breeds, Cochins and Game bearing no comparison with them in that respect. Brahmas are declared

unfit for the table by those who have never tried them. Let them once try a well-fatted chick, and opinions will immediately change.

These birds are much "cried up," but not so much as they will be when their habits and properties are better known. They have gained their present position entirely on account of their beauty and utility; and whatever "NEWMARKET" may say to the contrary, they are of all others the sort that combines these two qualities in the highest degree. What can be more beautiful in fowl-form than a light Brahma hen, with her large, round, plump body, clear white feathering relieved with a delicately pencilled neck, and little black tail peeping out among heavy masses of the purest and softest white feathers, the whole set off with such a pretty face and head surmounted with a tiny pea-comb, like the earlobes and wattles, of the brightest scarlet, and with a brilliant yellow beak and legs, the latter well fringed with white feathers? The dark Brahma, with his pencilled hackles and saddle, black mottled breast, strong, thickly-feathered, yellow legs, and glossy green tail plumes, forms a picture of beauty which no Game bird can hope to surpass, with his closely-cropped head, vindictive expression, spare neck, and long thin legs, like his human counterpart the prize-fighter. Many look at the latter as the type of manly beauty, and, consequently, view the former as the ideal of his kind. Hence we find the feathered combatant exalted upon a pinnacle of glory to which his real merit and value would never have raised him.—**A. E., Bristol.**

THE BIRMINGHAM COLUMBARIAN SOCIETY.

It is a matter of congratulation to find that the meetings of this Society are enlisting so large an amount of public favour and attention, whilst the disinterested courtesy of its members to every visitor well deserves such a reward. Its Exhibitions are not held with any desire for pecuniary gain, the solitary restriction (a necessary one), being that visitors are admitted by ticket only, free of any charge, and easily procurable on application to any member of the Society. The very large club room, used as the place of exhibition, is on the ground floor, is exceedingly spacious and well lighted, and was literally thronged with fanciers.

By the general rules, one portion of the prize schedule was devoted exclusively to single Pigeons, imperatively birds of the present year, and to insure certainty as to the individuality of these specimens, and also to their being actually bred by the members themselves, at a certain age they had each of them to be printed by an appointed officer on the under side of the wing with the badge of the Society, nor could any deficiency in this particular be held as admissible. Not the slightest effort at imposition was made, nor was it possible to succeed had it been attempted.

As the Society now embraces most of the leading fanciers of Pigeons in the midland counties, the competition was anticipated to be very close, and it certainly proved so, as may be imagined from the fact that not only did many single birds bred by the same amateur compete with each other in the classes for young birds, but in not a few instances the rivals proved to be twin specimens taken from the same nest, and, consequently, such Pigeons proved almost as similar as the very peas themselves on which they had been accustomed to feed. A task of no easy character, therefore, devolved on the Arbitrator, and at the unanimous request of the members a well-known local gentleman accepted the office, and his conclusions proved most satisfactory.

The display of plate prizes, tortoiseshell tea-caddies, gold lockets, paintings, &c., took the visitors by surprise, whilst the excellence of the birds throughout was not by any means less remarkable. The Carriers, White Pouters, Dragons, Antwerps, and a few of the Short-faced Tumblers, were of surpassing excellence, and exhibited in faultless condition. Some immense Runts were shown, but in a variety class so replete with *recherche* breeds of fancy Pigeons they could only obtain "high commendation." The large display of "Satinettes," shown by the Secretary, Mr. Noyé, was such as was never before seen at any exhibition, either in this country or the Continent, and their lovely feather and condition were the theme of general praise. Under the guidance of long-practised amateurs, and most of them also owners, the arrangements of the Show were unexceptionable, and the extreme quietude and order that prevailed were worthy of emulation by Committees of all similar meetings.

We understand it is now proposed to extend the Society's efforts to the whole of the surrounding districts, constituting a Pigeon show for the midland counties. In furtherance of this view the next monthly meeting of this Society will be held at the Ship Inn, Steel-house Lane, Birmingham, on Monday, December 3rd, at eight o'clock in the evening, when any amateur of Pigeons who may wish to attend will be cordially welcomed by the members.

YOUNG BIRDS.

CARRIERS.—First and Cup, for best pen in show, — Barnes. Second and Third, — Walker. Highly Commended, — Foster.
POUTERS.—First, — Foster. Second, — Smith.
TUMBLERS (Short-faced).—First, H. Yardley, Market Hall, Birmingham. Second, Withheld. Third, — Careless.

TUMBLERS (Any other variety).—First, Second, and Third, — Careless.
TUMBLERS (Long-muzzed).—First, Second, and extra money prize, — Careless. Third, — Edge.
JACOBIANS.—First and Third, — Allsop. Second, — Edge.
FANTAILS.—First, Second, Third, and extra prize, H. Yardley.
OWLS.—First, Second, and Third, — Barnes.
TURBITS.—First and Third, — Barnes. Second, H. Yardley.
BARBS.—First, — Allsop. Second, — Foster. Third, H. Yardley.
DRAGONS.—First, Second, and Third, and silver cup, for best bird in the class, — Ludlow. Highly Commended, — Allsop; — Ludlow; — Edge.
ANTWERPS.—First and extra prize — Ludlow. Second, — Smith. Third, H. Yardley. Highly Commended, H. Yardley; — Smith; — Ludlow.
ANY OTHER VARIETY.—First, Second, and Third, — Noyé (Satinettes).

ADULT BIRDS.

CARRIERS.—Cocks.—First, — Foster. Second, — Allsop. Third, — Barnes. Highly Commended, — Walker; — Foster. Hens.—First and Second, — Eldons. Third, — Walker. Highly Commended, — Allsop.
POWTERS.—First and Third, — Foster. Second, — Edge. Highly Commended, — Foster.
TUMBLERS (Short-faced).—Prize, and Highly Commended, H. Yardley.
TUMBLERS (Any other variety).—First, — Foster. Second and Third, — Careless. Commended, — Foster.
JACOBIANS AND FANTAILS.—First, and Second for Fantails; Third and extra for Jacobins, H. Yardley. Highly Commended, — Stewart (Jacobins).
OWLS, TURBITS, AND NUNS.—First, Second, and extra prize, H. Yardley (Owls, Turbits). Third, — Foster (Turbits). Highly Commended, H. Yardley (Nuns).
BARBS.—First, Second, and extra prize, H. Yardley. Third, — Edge.
DRAGONS.—First and Third, H. Yardley. Second, — Ludlow. Highly Commended, — Ludlow; — Edge.
ANTWERPS.—First and extra prize, H. Yardley. Second and Third, — Ludlow. Highly Commended, H. Yardley; — Barnes. Cocks.—First, H. Yardley. Second and Third, — Edge. Highly Commended, H. Yardley; — Barnes.
ANY OTHER VARIETY.—First, Second, and extra prize, a painting of Red Pile Game Fowls, — Noyé (Satinettes). Third, H. Yardley (Brunswicks). Highly Commended, H. Yardley (Black Bunts, Black Magpies, Red Helmets Yellow Magpies).

Mr. Edward Hewitt, of Eden Cottage, Sparkbrook, Birmingham, fulfilled the office of Arbitrator.

WOODBURGE POULTRY SHOW.

YOUR correspondent Mr. Hose wished to see a list of the unpaid of the prizetakers at this Show. I am one of the creditors of this affair, where, amongst other pieces of mismanagement, a tent was blown down, and a general scramble of the birds took place. I wish they would give us the same chance for our money.

I received a printed circular signed by J. Wright, similar to that which was sent to your correspondent, and with a similar result, if nothing can be called a result. I have also received a balance sheet or statement of accounts unsigned, purporting to be drawn up by John Dallenger, an accountant, which goes to show that the Society owes him some money. This document is so minute in its detail that it includes "a pen in the possession of J. Wright, a box in the possession of J. Dallenger, a piece of calico with inscription, a water-pot, and two needles at 1d. each." Wondrous exactness!—what pen can this be, and why should J. Wright have it? Is the box the money-box?—it is only valued at 2s. 6d. What can be the inscription on the calico? I can suggest one, but it is no good quoting Latin; and as for the two penny needles, bless their eyes!—I do not want them.

Mr. Hinton informed us in your pages some time since that he had received his money—lucky man! See what it is to show Brahmas. I cannot, however, congratulate him on this undue preference. A gentleman with whom I am acquainted sued the Secretary of the Show in the County Court and was paid. Let your correspondent Mr. Hose and all others take the hint, and then they need not write any more letters.—EGOMET.

"B. & W.'s" APIARY IN 1866.

(Continued from page 305.)

I NOTE the remarks of your correspondent "J. E. B.," at page 218, as to the poverty of my breeding operations this year. I am bound to confess that the result has been insignificant, although I cannot think with him that "the season has been practically lost;" nor do I see how I can be in a "worse position next year," because, as is alleged, "the pure queen will have a poorer chance of proving prolific in 1868." I cannot agree to this, as my experience goes to prove that prolific queens retain their fecundity almost unimpaired to the close of their life. Nevertheless, I quite agree with "J. E. B.'s" implied disapprobation of my slow method of proceeding. The fact is, that I have less time than formerly to devote to my bees, while the time I have at disposal is distributed among a

greater number of hives. It is for this reason that I have this year allowed the bees to swarm at pleasure in the natural manner, by which I have been a considerable loser both of swarms and honey. I relied too implicitly on their not swarming, but, give as much room as I might, the bees persisted in swarming in the most disappointing manner, as they did last year. More than ever am I convinced that natural swarming is a most wasteful and unproductive system, not to speak of the disappointment and vexation which follow upon it. A natural swarm is a beautiful sight, no doubt; so also to the botanist and mere lover of the picturesque is a wild hedgerow, or a fallow and neglected field. To him high cultivation, with the adoption of the most successful inventions in agricultural machinery, is an abomination. So also to the artist are modern cottages, with light, and air, and rooms for decency and comfort, which follow on the destruction of those charming cottages, roofed with thatch, and covered with ivy and moss, which arrest the gaze of mere external admiration, while they make the philanthropist sigh as he thinks of the ill-health and immorality which they foster. So in apiculture, if plenty of honey is looked to as the object of bee-keeping, artificial swarming must be resorted to by all who can command the needful time and intelligence. Even cottagers should learn some better system than the "let-well-alone," and the brimstone pit—although, by the way, the latter is sometimes a very useful and merciful auxiliary, nor should its use be altogether discarded.

Since my last paper was written, I have received a beautiful Italian queen from Mr. Woodbury, which I succeeded only yesterday in establishing as queen-mother of E in my beehouse. She was recognised and joyfully accepted by the bees within six hours of the loss of their old queen. Is not this one of the shortest intervals on record between the loss of a queen and the reception of a new sovereign in a hive?—B. & W.

THE EGYPTIAN BEE.

MR friend, Mr. Woodbury, having in his graphic account of his introduction and his short period of possession of *Apis fasciata*, mentioned my name as being one of the recipients of his discarded beauties, I think it but due to him, as well as to your readers generally, to relate both how the bees have fared with me and I with them. Two of the gentlemen who have had stocks of this variety have already favoured us with the results of their experience, which have corresponded to a great extent with those of Mr. Woodbury. I can also endorse all that he has stated, not so much from my own experience with the bees since the three hives which I had from him came into my possession, but from having been a frequent eye and ear witness of what did really occur in and about Mr. Woodbury's apiary during the time he owned them.

With me I must confess these little savages have behaved much better than they did when in his possession, or than I at all expected them to do from my previous acquaintance with their dispositions and conduct. Hitherto I have made no attempt at propagation of the variety, being very unwilling to increase the savage element in the dispositions of the bees of my entire apiary, by the intermixture of Egyptian blood among my Ligurian and common hives. I preferred waiting until better acquainted with their qualities as breeders and honey-storers, and until after opportunities of observing how their dispositions might be affected by being almost entirely left alone. I hope early next year, however, to rear a few artificial swarms.

Perhaps it may be as well to give a short history of the three hives of Egyptians since I have had them. Although fully aware of the character of these bees, nevertheless, I was glad to avail myself of Mr. Woodbury's offer of an exchange of stocks.

No. I was a small artificial swarm, still limited to four frames in a nucleus-box, and the queen had only just commenced laying eggs. I believe her to be almost, if not perfectly, a pure queen, and a breeder of pure Egyptians, as there were only drones of that variety at that time present in Mr. Woodbury's apiary. In transferring the combs into my own hive, it was necessary to fasten the bars by wires or screws to those of my own frames, there being a difference between the dimensions of Mr. Woodbury's and mine. The transference was effected with very little difficulty, though not without an attack from all the disposable forces at the enemy's command; but their numbers being limited, and I being well protected, the assault did not trouble me much. After a few days, when the population had received an accession of numbers from young bees hatching out from the Ligurian brood-

combs, I transferred them into an eight-frame box, giving them four combs, chiefly of brood from another stock. The hive rapidly increased in strength, and, appearing to require enlargement, a super was afterwards added, but very little work was carried on in it. The bees have always exhibited considerable activity, and appeared to be doing a great amount of real work. They have stored about enough provisions for the coming winter's requirements.

The drones, which are really beautiful insects, have been very abundant, and were flying about in large numbers up to within about three weeks from this date, the 31st of October. Had I been so inclined, no better opportunity could have occurred for raising pure-breeding queens.

No. 3 was also a small artificial swarm similar to the preceding. I did not receive it until a few days later, as Mr. Woodbury wished to see the queen actually breeding before sending her away from the neighbourhood of his Egyptian drones. The history of this colony is much the same as that of its sister hive, with the exception that the bees do not all appear so invariably pure-bred, though at the time of its first reception I thought the queen rather the more beautiful of the two. This stock has not been so strong either in bees or drones, nor has it stored sufficient food for the winter without being somewhat liberally fed. Probably it did not receive quite so much aid at the commencement, by the addition of sealed brood-combs from other stocks. It may be worthy of remark, that the queens of these two hives are those already described by Mr. Woodbury as having been at large in the parent stock at the same time.

No. 14, was a hive of an entirely different character from either of the two just described. This was a populous colony in a full-sized Woodbury hive. The queen, raised from the one originally imported soon after her arrival in this country, was impregnated by a Ligurian drone, so that the workers, though well marked, could not be quite pure. The drones, however, were, as might be expected, very beautiful. By Mr. Woodbury's wish the bees were kept confined for thirty-six hours to prevent their returning to his garden and endangering the lives of his own young queens in the vicinity of their old quarters. This prolonged confinement I deeply regretted, as, although the hive was stationed in a darkened room, the excitement kept up was so great that thousands of bees were destroyed, and even after the liberation of the survivors, the work of death went on, owing to a ruthless internecine war. I do not think the queen was injured or lost at this time. A few days subsequently, when peace was quite restored, I set about what was feared would be the formidable task of transferring the combs into my own frames. This was, however, effected with greater ease than I had anticipated, by driving out all the bees into an empty box. I was thus enabled to secure all the combs in their new frames with the greatest ease, after which the bees were dislodged on the tops of the bars. Though at first the bees were very savage, the driving proved a wonderful subduer of evil passions, for I was hardly molested at all, after having succeeded in forcing them to vacate their combs for the upper box. There was a renewal of the fighting among themselves after the operation was concluded, and I fear that at this time the life of the queen must have been sacrificed. After several careful inspections, during which the bees fully maintained their claim to the character of little savages, I could discover no trace of a queen or newly-deposited eggs. I waited a long time in vain for the signs of construction of royal cells. At length, being not sufficiently enamoured of the breed of African savages, I inserted a sealed royal cell from a Ligurian hive. The young queen appeared to have emerged naturally on the following day, but I could find no traces of her or any other, and then I discovered the commencement of one or two royal cells. In due time a queen was hatched out, but whether she is an Egyptian raised from an egg of the defunct queen, or whether she might have come from any brood or royal cell from a Ligurian stock, I cannot be certain. The bees are more like Ligurians than Egyptians, and, that which may perhaps be considered as a proof of what they may really be, a few days ago, on inspecting the combs and transferring the stock into a smaller box, better suited to the somewhat limited population, I was astonished to find the bees as peaceable and well disposed as any Ligurian stock in my garden.

I may then consider my Egyptian hives to be reduced to two, one of these being, apparently, rather more pure than the other. From this one I hope to obtain an accession of pure queens next April and May.

Since first coming into possession of the Egyptians, I have

disturbed them as little as possible, and only when absolutely necessary for the sake of strengthening the hives by the addition of brood-combs. I have found them when not molested as peaceably disposed as any others. During several days of last month I had from two to four workmen engaged in some rough work in repairing and altering an erection that was formerly an aviary, but is now transformed into an admirable bee-house. Although constantly moving about in the very midst of the Egyptians, no one was molested or stung by them; but within the last week I have looked through all the hives of my town apiary, to see exactly how they were provisioned and garrisoned for the coming winter. I have broken up some, uniting the bees and combs containing honey to others; I have reduced some which had a superabundance, distributing the combs thus obtained where most needed; and I must confess, that while the Ligurian and common bees exhibited but little manifestations of anger, the two Egyptian hives which may be considered as most pure, showed no decrease in irascibility, as I was covered with assailants from head to foot. As I previously stated, the third stock, which is in all probability more Ligurian than Egyptian, allowed me to meddle with its contents almost with impunity.

In conclusion I may observe, that the bees are so beautiful as to be a decided acquisition in the hands of the scientific apiarian, but that I should hesitate to recommend any of my less experienced or fearless brethren to embark in their culture. —S. BEVAN FOX, *Exeter*.

I AM sure I speak only the sentiments of all the apiarian readers of "our Journal" when I state in their behalf how greatly we are obliged to Mr. Lowe and Mr. F. H. West for the very interesting particulars which they have so kindly related, in compliance with the desire which I expressed for information as to their experience of the Egyptian bee.

The following extract, translated from a letter which I received from Herr Vogel after my narrative had been concluded, proves that the Egyptians have shown themselves as prompt to repel aggression and to resent interference in Germany as they have been in England: "You were kind enough to inform me that the Egyptian bees were very much inclined to sting. This my experience confirms. The Egyptian bees cannot bear tobacco smoke; if used during an operation they get very angry. They do not in Egypt employ tobacco smoke, but use that of dried cowdung. Mr. Soliman, an Arabian, who has a hundred hives, always employs the latter when performing an operation. I use the smoke of decayed wood, but this does not prevent their attacking me. You are perfectly right in saying that the Egyptian bees are very easily irritated, whilst on the other hand they are very good-natured, and if people study their temper they are very easily to be managed."

I can only surmise, therefore, that I missed the way to their good graces, for I certainly never found them either "good-natured" or "easily to be managed." The only smoke which I ever used when manipulating them was that of cellar fungus, and it certainly seemed to have the effect of exasperating instead of subduing them, unless used so freely as to induce partial stupefaction—an extremity to which I am always very unwilling to proceed.—A DEVONSHIRE BEE-KEEPER.

VAGRANT NOTES.

IN your impression of October 9th I observe it stated by a "Novice" that a swarm issued from his hive on "June 8rd, at 8 A.M., and a second swarm June 30th, at noon." There is obviously a mistake here. An after-swarm is not to be looked for after a lapse of three weeks from the departure of the first swarm.

"HAMPSHIRE RECTOR" seems astonished at finding large-sized slugs in his hives, and accuses them of devouring his sweets. I can assure him it is no uncommon occurrence for slugs 5 and 6 inches long to find their way through a very small aperture into both weak and strong hives. A few weeks ago I removed two of monstrous dimensions from the interior of a common straw hive. The floor-board was rendered filthy by their slime; but I found no evidence of their having ascended any of the combs.

In June, 1864, I had an opportunity of witnessing the movements of these "unwelcome visitors" in a hive with glass sides, no fewer than four having successively effected an entrance. Their progress along the sides of the hive was very slow, owing to the bees biting or tickling their tentacula the

moment their horns were protruded with the view of commencing a march. Not one sting, however, was unsheathed against them, nor did the slugs venture upon the comb. It was quite evident from the manner in which they were annoyed by the bees, that they would have retreated if they had known how. Were these repulsive creatures met by bees at the doorway, I have no doubt a retrograde movement would be reckoned highly desirable.

Wishing to remove a frame hive about a hundred yards, I tried the plan suggested by "J. E. B." at page 330, Vol. IX., but did not find it successful in preventing the bees returning to their old stance. Not wishing to drive it I removed it to a room for a couple of days, where the bees were allowed to come out and fly against a window. By placing a little comb containing honey at the entrance they were induced to come out in great numbers, and after a little while they would return to their home in a running stream. On removing the hive to its new stance the difficulty was entirely surmounted. I may now be permitted to take another glance at foul brood.

By referring to page 331, Vol. IX., the statement will be seen that I put out the brood-combs of a foul-breeding stock, and subjected the combs containing honey to the fumes of sulphur. Though not a cure, this process mitigated the evil to some extent during spring and summer—i.e., most of the young bees hatched out; but as the season has advanced the disease has advanced with it, and I do not believe the stock will ever be able to work out its own cure. I cannot speak of it otherwise than as being at this date (October 22nd), virulently affected, and I give credit to Mr. Woodbury for predicting that there was little or no chance of the complaint being eradicated by "partial excision, even when combined with sulphurous fumigation." After this summer's experience I should like to know whether the "RENFREWSHIRE BEE-KEEPER," or any other gentleman, can testify to a foul-breeding stock having been cured without the intervention of any purgatorial process.

The "RENFREWSHIRE BEE-KEEPER" speaks of the diseased pupæ being reversed, and Mr. Woodbury admits that in some instances they are so. Now, this is different from my experience. I found every bee dying after it had undergone its metamorphosis rightly placed, and the pupæ were also lying as pupæ generally are—sharp, but not reversed. In healthy brood it is the "sharp" or tapering end that is towards the cover of the cell. Regarding the origin of this bee pest I can only give conjectures. I may mention, however, that in June last my brother put a second cast into a skep containing old comb which was free of foul brood, but not in good condition. I examined it a short time ago, and found it a mass of foul brood and the bees defunct, the proprietor never having suspected that anything was wrong with the hive.

Before concluding, I may again inform a "BLACKHEATH'AN" that my sparrows decline to feast on bees. I chilled a great number and then presented them to a cock sparrow; he just looked at them a short time and went away. I once had a starling that was passionately fond of drones. He caught and devoured them greedily, but would not touch a worker bee. He seemed to know the difference between them as well as myself, and I never could deceive him into mistaking the one for the other.

Might not the sparrow raid of a "BLACKHEATH'AN" be, not upon bees, but drones and ejected nymphs?—R. S.

OUR LETTER BOX.

"NEWMARKET" returns "Y. B. A. Z.'s" greeting.

DORKING COCK LAKE FROM CORNS (N. H.).—Shut him up for a time where he has only grass to run on, and let the floor of his roosting-place be covered with hay. Examine his foot, the swelling is sometimes caused by a thorn, sometimes by a small gravel stone having pierced the ball of the foot. If this is the cause, it is easily removed. If it is a corn, it is troublesome, and can only be rubbed down by one of the rasps used for the same purpose by human beings.

CROSS BETWEEN THE DORKING AND COCHIN-CHINA (Boadicea).—The cross between either the Brahma or Cochin-China and the Dorking is accomplished by putting the Cochin or Brahma cock to Dorking hens. Dummies are considered a distinct breed. Their merits are that they are good layers, sitters, and mothers, but not more so than other breeds. There is a curious resemblance in all but size between them and the Japanese Bantams recently imported. In both cases the colours are white and yellow, and brown. We do not think any colour is a test of purity or otherwise.

BRABHA POOTRA (A. Chadwick).—You must consult the authorities as to the characteristics. If the bird has those characteristics it may be accepted as pure. There is no other mode of determining whether it is cross-bred.

POULTRY-HOUSE AND YARD (Dorking).—Your plan seems to give all the requisites for economical and successful poultry-keeping. The space between the gravel-pit and the stack-yard will give you 40 feet in length; and you may, having so much space available, take 15 in depth. The height should not be less than 8 feet; if more, so much the better. The entrance should be at one end. Light should be admitted either by a skylight or by windows, and there should be plenty of it. We prefer skylights, and if covered with small wire-netting they will not be broken. You will still require openings for ventilation. These may be flaps on hinges, unglazed, but filled in with wire netting, so that in the summer they may remain open all night, while during the cold winter months they should be closed all night, but even then they and the door should be opened throughout the day to purify the house. They should be at least 6 feet from the ground, and so contrived as to provide a thorough draught through the building. The floor should be of earth covered with some inches of loose gravel mixed with bricklayer's rubbish. It should rise from the door to the back. The house should be supplied with laying-boxes, which may be opposite the door. The perches ought to be within 3 feet of the ground. They should not be fastened, but should rest on ledges on the wall, so as to be easily removable for purposes of cleaning. Poles of about 14 inches in circumference sawn in half and placed with their side uppermost are best; it is required. Nothing of an expensive character is necessary. Having stone at command, that material may be used as a foundation and for 2 feet above the ground; all that is necessary afterwards is good sound planking, which covered with gas-tar is very durable. The fowls should have free access to the stack-yard, in which they all delight; it affords them food, dust-baths, and shelter in wet weather. The position chosen for the house would place it against the greenhouse and vinery. The artificial heat is not necessary. Ducks should not roost with fowls. The stream need not be covered over. The place is well adapted for Dorkings. Your Cochins and Brahmas for winter layers and early sitters may be safely and profitably kept in any small confined space. A fence 5 feet high, or even 4, will safely hold them, as they have no desire to stray or go out. A roosting-house 15 feet square, and an enclosure 30 feet by 20, would keep a dozen or more; but if you want only eggs you may let them run with your Dorkings and still keep them quite pure by having only Dorking cocks. The colour of the eggs will always enable you to sort them. There is no necessity to go to expense in making poultry-houses, nor is there any return for doing so. You should have a separate small house for sitting hens; you probably have such, as any sheltered place will do, and if partially dark so much the better. The hens must sit on the ground.

BRABHA POOTRAS LAYING (W. S.).—Brahmas lay at from five to six months, sometimes earlier. We have them now laying at that age, and we have known them lay at eighteen weeks.

BREEDING DUCKINGS BANTAMS (Bantam).—May and June are the best months for breeding Bantams. We suppose you wish to introduce more colour into your Duckings, and therefore cross with a Black Red. The best plan is to breed from Black Red cocks and Duckwing hens. You must be guided by appearances afterwards; but it is probable that, breeding the second year from mother and son, you will obtain all you require.

FEEDING DUCKS (—).—Your Ducks, now three months old, will probably lay about January. Good feeding will assist, but over-feeding will prevent it. Give them good oats put in a vessel with some gravel; vary the diet by giving meal, and now and then a small quantity of tallow-chandler's greaves. It is necessary they should have access to the pond at times.

GAME FOWLS' TAILS AND BREASTS (R. Hawkins).—We sent your note to "NEWMARKET," and he replies:—"Game fowls' tails should be neither too long nor too short. Long-tailed birds are long-bodied in general, which is bad; and short-tailed birds are often 'broad-rumped.' Tails should be well fanned and spreading, and well skirted, the sickle feathers with a full round curve. Short tails or small tails are bad for exhibition birds, and the large tail is most showy and most approved of as a rule. Game fowls' tails should be carried erect and upright, which shows spirit, as the drooping tail shows a want of spirit. The best and purest strain of Brown Reds always have the red-brown breasts, throats, and breast-bones. Brown Reds being crossed with the Black-breasted Reds in general. Brown Reds should be of a dark red in the cocks—hens, dark brown and not black—very dark iron-brown legs; fine, long, sharp heads, and dark nails, light or white nails being bad. Red brown-breasted cocks are the most spirited and hardest birds."

APPLES FOR PIGS (An Old Subscriber).—Whether boiled or unboiled, we should give refuse apples to pigs; but should prefer them boiled and mixed with meal.

WOLVERHAMPTON POULTRY SHOW.—Mr. E. T. Holden, of Walsall, informs us that he was the winner of the first and third in Spanish, and not Mr. Beach.

SICK BULLFINCH (Iago).—I fear your Bullfinch has by some means ruptured one of the delicate air-vessels of the body, by which means the air has escaped under the skin. The best way to relieve the bird is to puncture the skin with a fine pair of scissors and so let out the air, being careful to avoid any of the larger veins. Rest and quiet will most likely work a cure, but I would advise the withholding of all stimulating or exciting food, as hemp or rape seed, and brandy. Give in preference lettuce, chickweed, bread and milk sop, and a little Spanish liquorice in his water.—E. F. BAKER.

POULTRY MARKET.—NOVEMBER 5.

We have a good supply, and trade is rather improving. Grouse continues plentiful. Up to the present time we have had more Grouse from Scotland than for many years past.

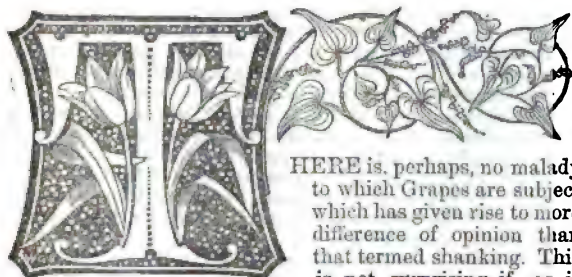
	s.	d.	s.	d.		s.	d.	s.	d.
Large Fowls.....	8	0	8	6	Pheasants.....	2	8	2	6
Smaller do.....	2	0	2	8	Partridges.....	1	8	1	6
Chickens.....	1	8	1	8	Grouse.....	1	6	1	9
Geese.....	6	0	7	6	Hares.....	2	6	3	0
Ducks.....	1	9	2	0	Rabbits.....	1	4	1	6
Pigeons.....	0	8	0	9	Wild do.....	0	8	0	9

WEEKLY CALENDAR.

Day of Month	Day of Week	NOVEMBER 18-19, 1866.	Average Temperature near London.			Rain in last 30 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
18	Tu	<i>Correa speciosa.</i>	Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days	m. a.	817
14	W	<i>Correa pulchella.</i>	49.8	33.6	41.7	21	17 af 7	13 af 4	51 af 11	17 af 9	6	15 34	818
15	Th	<i>Coronilla glauca.</i>	48.2	34.7	41.5	19	18 7	11 4	after.	21 10	7	16 25	819
16	F	<i>Cytisus Alleanus.</i>	48.6	32.9	40.2	17	20 7	9 4	56 0	27 11	9	15 15	820
17	S	<i>Daphne indica.</i>	48.7	34.4	41.5	18	22 7	8 4	25 1	morning	9	15 4	821
18	SUN	25 SUNDAY AFTER TRINITY.	47.9	33.3	40.1	18	24 7	7 4	51 1	35 0	10	14 52	822
19	M	<i>Epacris nivalis.</i>	48.0	34.0	41.0	19	25 7	5 4	18 2	47 1	11	14 40	823
			48.6	34.0	41.3	16	27 7	4 4	49 2	4 8	12	14 27	824

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 48.5°; and its night temperature 33.8°. The greatest heat was 62°, on the 16th, 1840; and the lowest cold 18°, on the 16th, 1848. The greatest fall of rain was 1.24 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

CAUSES OF GRAPES SHANKING.



HERE is, perhaps, no malady to which Grapes are subject which has given rise to more difference of opinion than that termed shanking. This is not surprising if, as is

probable, almost anything which militates against the health of a Vine may produce it.

Shanking may be described as the death of the footstalk which unites the berry to the bunch, or part of the main stalk to which the footstalks of the berries are attached. The effect is to prevent single berries, or the part or whole of a bunch of Grapes, coming to perfection, by the stoppage of the necessary supply of sap, thus destroying the hopes of the cultivator at a period when he feels secure of success.

Nothing is more certain than that either a low wet border will cause shanking, or that a soil totally unfit to grow Grapes will produce it; but I am more than ever convinced that many a border is condemned, and many a house replanted, where the fault is entirely in the mode of cultivation.

I saw a house only a few days ago near a gravel-pit, where the soil, a chalky loam mixed with stones, was a good Vine soil naturally, and where the roots must go many feet to find water, and was told that several kinds always shanked, and I was not at all surprised to hear it. I could name several places where Grapes have shanked, and would defy any one to point out a reason why the soil could be in fault; but, which is more to the purpose, I could show Vines that for years together have shanked their fruit, but which, two years after the system of pruning was altered, have brought their fruit to perfection.

Vines may often be seen mismanaged in the following manner:—The side shoots are correctly stopped at one leaf above the fruit, but afterwards are allowed to make seven or eight, or even more, leaves, which are all cut off and carried away in one day. I have seen barrow-loads of shoots and foliage thus removed. Now, is it possible such an amount of foliage can be removed from a growing Vine without injury?—that we can, whilst a Vine is in full growth, with impunity cut through scores of fruit-bearing branches almost as thick as a man's little finger, and the plant not feel any ill effects?—that roots growing rapidly will receive no check?—that roots thus checked, particularly if the sort be a weak grower, will receive no permanent injury?

I believe it only requires attention to be directed to the subject to see the absurdity of the practice. Let us next see what takes place where Vines are properly attended to.

The shoots are stopped, as in the other case, as soon as one good leaf is formed above the bunch of flowers. This

checks the sap, and diverts it to the fruit. The strongest shoots soon recommence growing, and when two leaves are formed, the point of the shoot is taken out with the thumb-nail. There is no loss of foliage in this case. The weaker shoots take advantage of the check their more robust fellows have received, and are in turn treated in the same manner. The sap is thus equalised, and no useless foliage is formed merely to be removed. This treatment is a gradual one, spread over the whole time a Vine is growing, and not the work of one day. The plant as a whole receives no check.

Again, some Vines are not allowed to carry foliage at all in proportion to the fruit expected from them. Can they under these circumstances make healthy roots? Some of your readers will ask, Did you ever see Barbarossa or Black Alicante made to shank by such pruning? I answer, No; but I have seen them reduced to barrenness by it.

Having thought long on this subject, I have observed closely the conditions under which shanking has occurred, and in some cases have been able to predict it a year beforehand, and I am more than ever convinced that the mode of management pointed out is its most prolific source.—J. R. PEARSON, *Chilwell*.

HYPOCAUST HEATING FOR HORTICULTURAL STRUCTURES.

LIKE most important features in horticulture, the heating of glass structures has at times been a subject of more than ordinary interest, and especially when a new mode has been introduced which has promised to eclipse all that have preceded it. That considerable improvement has been made in economising the materials made use of to produce heat there can be no question, but that there is abundant room for a still further advance in that direction is equally certain, judging from the waste which occurs even in the most carefully constructed apparatus. To a certain extent a loss of fuel would appear inevitable, but there seems to be no reason to doubt that with improved means the amount of that loss would be much diminished; and the plan to which I now seek to direct attention appears to be calculated to make the most of the fuel consumed, and to have merits peculiarly its own. It has been in actual use for some time, and has answered very well; and though the gentleman to whom horticulturists owe the introduction of this mode of applying heat—C. Wykeham Martin, Esq., M.P., of Leeds Castle, Kent—disclaims the merit of originating it, he is as much entitled to our thanks for resuscitating a plan, which is said to have been adopted some sixteen or eighteen centuries ago, as if he had been the original discoverer.

Mr. Martin takes for his model the Roman hypocaust; but as many readers of the Journal may not, perhaps, understand the term, I may state that old Roman villas were heated from open fires acting on a fireproof floor at the lowest part of the house, and that the heated air, consequently, found its way upwards through the various apartments which required warming. Now, though the Romans applied fire heat in the way described, their mode

of doing so must have differed widely from that which Mr. Martin has brought into notice; besides, the class of structures to be heated—glass houses—constitute altogether a fresh feature. As this system of heating is at once simple and capable of being adapted to most, if not all, places requiring heating, many persons will, no doubt, be anxious to become acquainted with its leading features, and these I will endeavour to state.

The glass structure to which Mr. Martin has applied the mode of heating alluded to forms the corner house of a range of lean-to graperies placed against the north wall of a kitchen garden, of which the ground has a considerable fall to the south. The position of the house is certainly favourable to its heating well, as a good brick wall forms its northern and western sides, and another glass structure heated in a different way adjoins it on the east side. In width it is middle-sized, the front being about 4 feet high, half glass and half brick, and its mean length about 27 feet. The aspect is, I believe, nearly south, but the west wall, pointing to the sun at about 2 p.m., exhibits a considerable departure from the rectangular form, at the same time this increases the period of the sun's heating power; so that as a whole the house is well situated for attracting solar heat, and likewise for retaining that which is communicated to it by other means. What these are I shall now proceed to describe.

While the house was in course of being built the whole of the interior was excavated about 3 feet, or a little more, below what was to be the floor line; brick pillars, 9 inches square and nearly as high as the floor, were erected all over the area to be covered, at distances of 3 feet 9 inches apart in one direction, and rather less than 3 feet in the other. These pillars or props were to support the floor, which was simply composed of three thicknesses of ordinary flat roofing-tiles bedded rather thickly in cement, and resting on the brick piers; a framework of boards supported the floor until the cement had become set, when it would carry any reasonable weight that might be put upon it. Under this floor there is the heating chamber, so contrived that the whole of the former is made available for heating the house—in other words, a fire applied underneath the floor imparts sufficient heat to the atmosphere of the house above. The thickness of the floor is from 2½ to 3 inches. Further, Mr. Martin has carried the hollow work outside of the house, and has heated what might in ordinary circumstances be called the Vine-border to the width of 6 feet or more, the hollow work being exactly of the same kind as that underneath the house, only, I believe, there was some contrivance for shutting off the heat from the outer border when not required there.

The outer border, when I saw it, was cropped with various vegetables in the course of forcing, and I believe the results have been very satisfactory. Vines had not been planted, but in some glass cases covering a part of the border Strawberries and early vegetables, such as Dwarf Kidney Beans, Radishes, &c., I was told, had been very satisfactory.

In the interior of the house a bed had been formed upon the tiled floor, and Pines were planted, and some of them promised well. Flowering plants and other subjects occupied the remainder of the house, which did not differ from others, except in the mode of heating.

So well had the system answered, I was told, that Mr. Martin, with the view of carrying out the principle on a larger scale, had erected a similar heating apparatus in the open air, or rather the same mode of heating was applied to a plot of ground protected not by glass but by some moveable frames. The means adopted were these:—A plot of ground, 45 feet square or more, was levelled by excavating the earth on the upper side; pillars of brickwork, 9 inches square, or perhaps 9 by 14, were erected about 3 feet apart all over the plot, and at the outside of all a close wall. The pillars were about 2 feet high, and level at top. Temporary planks were then placed all over the plot, so as to be as high as these pillars, and on them three courses of common roofing tiles were laid, with a due proportion of Portland cement between them, the whole forming a solid floor. I believe the planks were allowed to remain a few days before they were withdrawn, and most likely a week or two would elapse before this floor was covered with earth, in order to allow the cement to harden. I ought to add that the outside walls were carried about a foot higher than the floor to keep the soil in position, and in one or two places a trap-door was fitted into the outside wall to afford access to the chamber underneath. The fireplace was at one corner, where the nature of the ground allowed of its being easily reached; and a capacious fireplace it was, capable of burning any kind of fuel, and the stump of a good-sized tree would not have choked it up. A chimney, about 10 feet high, at an opposite corner,

completed the heating apparatus, there being a damper in the chimney to check undue draught. I ought also to state that on two sides of the square lean-to pits of the ordinary description had been erected, and these were heated in the same way and by the same fire. I understood that by means of dampers the whole or the greater part of the heat could be thrown into the pits if required, or turned on to the much larger open space. These pits were occupied by Cucumbers, &c., and I believe there was an intention of trying Pines in them. Perhaps there might be some ingenious yet simple contrivance underneath, to insure an equal distribution of the heat supplied by the fire all over the space it had to act upon, but I am not sure; certain it is that in the heated chamber the tiles embedded in cement formed the roof, while the natural earth formed the bottom, and the fuel employed was anything that would burn.

Mr. Martin's object has been to obtain all the heat possible from the material consumed, and having obtained it, to apply it so as to insure the least possible waste. Impressed with the fact that heat always tends to ascend, he felt that applying it under the floor was the best way to secure his object. He only claims credit for restoring a very old mode of heating, not for inventing a new one. It is, he says, older than the Christian era, for Roman dwellings were warmed in this way.

From what has been stated, it would appear that hypocaust heating deserves to be considered in comparison with other modes of warming horticultural structures, or, what is equally important, of heating a large space not covered in at all, so as to impart to the earth that genial warmth, which, whether natural or artificial, exercises so much influence on the progress of the plants under cultivation. Of heating with the latter object in view, there was an example extensive enough; but unfortunately at the time of my visit, towards the end of summer, there had been no occasion for fires for some time, and the effects of the heating apparatus would only become apparent in the autumn. No doubt every spot that could be covered in any way would be useful during the winter, and many of us would like such a place for early Potatoes, Radishes, and even Peas and Cauliflowers; but whether these would be much benefited unless covered up, is a problem which the coming winter will doubtless solve. However this may be, Mr. Martin is entitled to the thanks of the horticultural world for the wide departure which he has made from the ordinary methods of applying heat, and for the field which he has thus opened up for further research. Far advanced as we suppose ourselves to be at the present period, it will be humiliating to be told (as time may prove to be the case), that heat was more economised, and more profitably applied, some twenty centuries ago than it is now.

There is evidently yet much to learn in the mode of consuming a given quantity of fuel to the best advantage. In this respect the mode of heating adopted by Mr. Martin would seem to be a nearer approach to correctness than most others, from the thinness of the material intervening between the fire and the atmosphere to be heated in the case of the plant-house, while in respect to heating a given space of ground, it has still higher claims to attention. Certainly the subject well deserves the serious attention of all concerned in the warming of horticultural structures, or, indeed, in supplying heat elsewhere. —J. ROBSON.

CRATÆGUS PYRACANTHA.

This, usually called "Pyracantha," or Evergreen Thorn, is a plant which attracts the attention of every one at this season of the year. The beautiful coral-coloured berries which it produces in great profusion contrast splendidly with its dark green foliage. It is a plant easily cultivated, and perfectly hardy—two very important characteristics.

This is another plant which I wish to recommend for the decoration of the dinner-table. It is readily increased from seed; or plants about a foot high can be purchased at most nurseries at a cheap rate. A very little trouble will bring them into the shape of pyramids or standards. In the former shape, with berries hanging over the sides of the vase up to the very summit of the plant, they are objects of great attraction. They may be trained in any other way which fancy may dictate; little globular bushes are very pretty.

The best way to grow them, I think, is to plant them out in an open sunny border, and to lift and root-prune them every season, which will keep them dwarf and fruitful. A few plants can be taken up in as many minutes, potted, and sent to the dinner-table, and difficult must they be to please who could

not admire such lovely objects. My wife says the *Pyracantha* is a most charming plant as an ornament, and most gardeners' wives are pretty good judges as to what looks well and what does not.

Larger plants are very ornamental for entrance halls, corridors, and other rooms in the mansion.

There is another purpose for which this plant is admirably adapted, and if it is a secret I will "let it out" if requested.

—JOHN PERKINS, *Thornham Gardens, Eye*.

[Let it out, by all means.—EDS.]

THE NEW ROSES.

DISAPPOINTMENT makes us very chary of entertaining any exalted ideas. We have been so often bitten, our expectations so often raised only to be disappointed, that an unknown Rose, unless it comes with the character of the raiser as a guarantee, is, notwithstanding the grand name and the high-sounding description, considered as anything but magnificent; and as I am now about to travel into those unknown regions where many a character is lost, and whose shores are covered with the relics of many a condemned felon, and with the leaves of catalogues which "lie" there, as they did when we first opened them with eager hands, I must ask for forbearance if I stumble, and, terrified at what has already happened, hesitate to guide my friends where I have not ventured myself. I will, however, do as in former years—endeavour to give a guess from what one does know.

CHARLES VERDIER.

21. *Paul Verdier*.—Vigorous. Flowers very large, full, perfectly imbricated. Magnificent lively rose.

This sounds well; and when at Vitry I heard a good deal said of a new Rose that C. Verdier had. Doubtless this was it. It seems to be of the Duchesse de Caylus character; and unquestionably the raiser of that fine Rose ought to be trusted, especially as some of our best Roses were his.

TOUVAIS.

22. *Alba Carnea*.—Vigorous. Flowers medium, full, very well shaped, white lightly tinted with rose; reverse of petals pure white.

23. *Apsatie*.—Vigorous. Flowers large, very full, flat, clear red, lively crimson at centre.

24. *Rose Perfection*.—Vigorous. Flower very large, full, very well shaped, very sweet-scented, and holding itself well, dark ruby and brilliant rose.

In looking over the last two years' lists I find that the following came from him—Belle Rose, Semiramis, Souvenir d'une Mère in 1864; and Comte Alphonse de Serenge, Danie, and Mousseline in 1865, not one of which is worth retaining in our lists. I am therefore very doubtful whether we can trust his descriptions.

LIABAUD.

25. *François Treyve*.—Vigorous. Flowers large, very full, shape of the Cabbage Rose, beautiful shining dark scarlet. Very beautiful.

26. *Mademoiselle Jeanne Mariz*.—Vigorous. Flowers very large, full, lively rose marbled with purple. Very beautiful.

27. *Mademoiselle Thérèse Coumer*.—Vigorous; seedling of Géant des Batailles. Flowers large, full, lively rose, pure white in the centre.

Last year M. Liabaud also sent out three, of which Jean Cherpin promises to be a good and desirable Rose: hence I am inclined to think that the first of these, at any rate, is likely to be an acquisition.

DAMAIZIN.

28. *Comtesse de Vallier*.—Very vigorous. Flowers medium-sized, full, well formed, dark violet purple, with blackish shading.

29. *Felix Genero*. Very vigorous. Flowers large, full, very well formed, beautiful violet rose.

30. *François Desbois*.—Vigorous. Flowers large, full, cup-shaped, lively red shaded with lilac.

Of the new Roses of last year three were the production of M. Damaizin, and of these Hippolyte Flandrin and Frédéric Biborel are excellent Roses; while I have also heard Abel Gonod well spoken of: hence we may hope well of these. The first two sound well, as there is a novelty in their colouring.

OGER.

31. *Claire Renard*.—Vigorous. Flowers large, full, cup-shaped, very lively rose.

I asked last year who was likely to hear anything of Aurore Boréale, La Tendresse, and Triptolème, this raiser's flowers

last year. My anticipations were well founded, and hence I shall pass this.

FONTAINE PÈRE.

32. *Berthe Chamu*.—Vigorous. Flowers large, full, imbricated, beautiful lively carmine rose.

33. *Sœur Thècle*.—Vigorous. Flowers large, full, very well shaped, metallic rose (*carminé liseré argenté*). I confess myself unable to do justice to this in a translation. But for what are we indebted to M. Fontaine? Fanny Petzold, Gustave Persin, and Mademoiselle Marie Rady—who knows these worthies?

34. *Madame Dubus*.—Vigorous. Flowers large, full, very well shaped, brilliant reddish vermillion.

35. *Triomphe de Soissons*.—Vigorous. Flowers large, very full, very well formed, beautiful flesh-coloured rose shaded with salmon.

GAUTREAU.

36. *Eugène Scribe*.—Vigorous. Flowers large, full, well-formed, fiery red, very brilliant. Of this I can say nothing.

GUILLOT PÈRE.

37. *Charles Verdier*.—Vigorous; seedling of Victor Verdier. Flowers very large, very full, well formed, beautiful rose, slightly bordered with blush. Very beautiful.

38. *Madame Bellenden Ker*.—Not vigorous. Flowers medium-sized, full, pure white.

39. *Monsieur Noman*.—Vigorous; seedling of Jules Margottin. Flowers large, full, tender rose bordered with blush. Very beautiful.

If M. Guillot has put Charles Verdier's name to a bad or indifferent Rose he ought to be hanged on the highest standard one could get, and be pelted with his own catalogues. It and M. Noman seem as like as two Peas, and let us hope both are good.

BOYAU.

40. *Capitaine Paul*.—Vigorous. Flowers large, full, well formed, lively red.

41. *Souvenir de Monsieur Boll*.—Vigorous. Flowers very large, very full, very well formed, cerise red shaded with *aurora*. This is said to be the colour of the dawn. I confess my inability to understand or translate it.

We are not much indebted to M. Boyau, so our expectations must not be raised much as to these.

PETERS.

42. *Euryanthe*.—Vigorous. Flowers large, nearly full, globular, red shaded with velvety black, passing into a bluish tint.

43. *Gloire de Thälwitz*.—Vigorous. Flowers large, full, sparkling scarlet carmine red, reflexed with lake. Superior to President Lincoln.

Of this raiser I know nothing, nor am I conscious that I have ever heard his name or where he hails from.

SOUPERT ET NOTTING.

44. *Panaché de Luxembourg*.—Vigorous. Flowers medium-sized, full, well formed, purple and violet, striped and marbled with salmon rose. A sport from Docteur Arnal. (Who is he?) I do not think this promises much.

LEVÊQUE ET FILS.

45. *Monsieur Chais d'Est-Angé*.—Vigorous. Flowers medium or large, full, brilliant red.

We owe many good Roses to honest old Levêque, and this may be another.

TROUILLARD.

46. *Lauriol de Barny*.—Vigorous. Flowers large, full, globular, imbricated, beautiful, very lovely currant red.

47. *Mademoiselle Marie de la Villeboisnet (!)*.—Vigorous. Flowers large, very full, delicately imbricated, beautiful tender rose.

48. *Monsieur Thiers*.—Vigorous. Flowers large, very full, regular, fine brilliant red.

The first of these sounds well, but one has been so very often disappointed in Trouillard's Roses, that I hesitate to pronounce.

VIGNERON.

49. *President Porcher*.—Vigorous. Flowers very large, full, beautiful clear rose, shaded with carmine.

This seems to be nothing out of the common, and so it must be left.

MORREAU ROBERT.

50. *Général Championnet*.—Vigorous. Flowers large, full, cup-shaped, lively red, shaded with violet.

LEVET.

51. *Jean France*.—Very vigorous. Flowers medium, full, well formed, dark purple.

And so, with a sigh of relief, I finish my task, and not with-

out some misgiving; for to profess to give an opinion involves the charge of being told by-and-by, Why did you recommend me such rubbish? I have, however, given my honest opinion, and only hope that it may be verified by the result.—D., *Deal*.

P.S.—I find that several Rose-growers speak of Mademoiselle Marie Rady, a seedling of Fontaine père of last year, as the best of the new Roses of 1866; if so, my remarks on his seedlings would be modified.

TIME FOR PLANTING OUT PELARGONIUMS IN BEDS.

I OBSERVE in the "Florist and Pomologist" for this month, a letter from "A. D.," who is kind enough to give us a very admirable list of plants for the spring decoration of our gardens—a subject which has engaged my attention ever since I took to gardening, which, however, is not a very long time.

I have no hesitation in saying that in this matter we are far behind our ancestors, for they had not to clear out their beds for bedding plants as we have now. The question is, How can we make our flower-beds look gay in the spring without encroaching on the time when our bedding plants should be planted out?

This leads to another question on which I should like to say a word or two—viz., When should we put out our bedding plants?

"A. D." gives us a list of annuals, &c., which would make any garden exceedingly gay from the middle of May to the end of June (even if sown in the previous August), but how about the bedding plants? I gather from "A. D.'s" letter that he is of opinion that the putting out of bedding plants is best deferred till quite the end of May or beginning of June, even in the "sunny south" from which he writes. Now my experience, even in the last very eccentric May, shows that as far as the moderately tender bedding plants, such as Pelargoniums and Lobelias, are concerned, the sooner they are planted out, provided the soil is wet, the better. I will give you the simple statement of what I did last May, and your readers may draw their conclusions. I will merely premise that my garden is entirely exposed to the prevailing winds of this district (near Chester), and is notoriously cold.

You may remember that we had dry weather for the first ten days of May. On the night of the 11th we had a fair allowance of rain, which wetted the soil thoroughly. On the 12th I planted out four beds of Pelargoniums and a few Lobelias. The same night it was bitterly cold and hailed furiously, and the next day I received condolences from my friends on having planted out. We then had a pleasing mixture of frost, cold east wind, and dry weather, till the 30th of May, during which time not another plant was put out, and my gardener occupied himself with washing the frost off the leaves of the Pelargoniums every morning—a proceeding which, in my opinion, accounts for the cheerful russet hue that all their older leaves presented by the end of May. Certain plants of Cloth of Gold Pelargonium that were providentially overlooked by him had quite a brilliant appearance compared with those that had undergone the morning ablution.

Well, at last the rain came, and without the loss of a moment the remaining plants were put out, and most of my neighbours began now to plant out.

Let us now skip the next three weeks, and see what is the comparative condition of the early and late-planted beds. Why, the former are beds well filled with flourishing bushy plants well covered with bloom (a bed of Lord Palmerston was perfectly glorious), while those that had been coddled up had scarcely shown a sign of growth. Of course I am comparing Pelargoniums with Pelargoniums. The contrast was absolutely ludicrous. Nor had the late-planted Pelargoniums begun to look really well when I left home for a two-months residence on the Continent in the second week in August, and, as after that came the deluge, of course they never did look well all the summer; while the early-planted beds during the fine dry weather we had in June and July were simply gorgeous.

Now, as the very earliest annuals sown in August, and planted out as large plants in October in the places they have to occupy in spring, entirely decline flowering before May with me, I should have been compelled either to have grubbed them up in their prime or to have postponed the bedding-out. As a matter of fact, the reason I did not fill more beds on the 12th of May was that the others were occupied with *Silene pendula*, *Alyssum saxatile*, *Rex Rubrum* and *Purple Crown Tulips*, all then in full bloom. The beds I planted had been

filled with early single Tulips (such as *Scarlet Van Thel*, *White Pottebakker*, *Canary Bird*, and *Molière*), *Hyacinths*, and *Crocuses*, all of which were well over before I wanted to plant, and were consequently moved to a quiet corner of the kitchen garden to make room for their successors.

Let me sum up by saying that while in these latitudes autumn-sown annuals do not flower early enough in the spring to be done before the bedding plants are put out, yet with *Crocuses*, *Hyacinths*, early single Tulips, *Primulas* (as *Polyanthus*, &c.), and other early perennials, a garden may be gay from the end of February to the end of October, and much longer if *Chrysanthemums* are judiciously introduced.—ALFRED O. WALKER.

VINE BORDERS, AND HOW TO MAKE THEM.

Six-ninths loam. Two-ninths boiled bones. One-ninth stable manure.	9 in.	Loam. Boiled bones. Stable manure.
"Then chopped sods, lime rubbish, boiled bones, and charcoal, in layers of 9 inches or 1 foot in thickness. The whole of this should be well incorporated together. . . . Between each layer of the above description I shall place 2 inches in thickness of lime rubbish and boiled bones, mixed in the proportion of about two-thirds of lime rubbish to one of bones."	9 in.	Equal parts of— Chopped sods, Lime rubbish, Boiled bones, Charcoal.
	2 in.	Lime rubbish and boiled bones.
	9 in.	Equal parts of— Chopped sods, Lime rubbish, Boiled bones, Charcoal.
	2 in.	Lime rubbish and boiled bones.
	9 in.	Equal parts of— Chopped sods, Lime rubbish, Boiled bones, Charcoal.
"After the flags have all been properly fixed I shall place over them a nine-inch layer of lime and brick rubbish, mixing with it a liberal quantity of bones."	2 in.	Lime rubbish and boiled bones.
	9 in.	Equal parts of— Chopped sods, Lime rubbish, Boiled bones, Charcoal.
	9 in.	Lime and brick rubbish, and Boiled bones.
	60 in.	Flags.

I AM preparing soil for a border wherein to plant two hundred young Vines, and have read with much attention Mr. Will's description of what he intends doing to form a good and lasting Vine-border. I have endeavoured to put Mr. Will's statement in a tabular form, which may possibly be acceptable to your numerous readers.

Will Mr. Will be so good as to inform me whether I have exactly caught his meaning? And if he will say what would be fair growth for young Vines to make without fire heat in such a season as we have had, I will, if his answer does not make me utterly ashamed of them, tell him how I planted ninety-four Vines, and what I planted them in.—H. S.

["H. S." has not quite understood my article on the above. His tabular arrangement is very good. In his table he has put equal parts of chopped sods, lime rubbish, boiled bones, and charcoal. That portion of the article he quotes should convince him that I did not mean to put an equal quantity of bones in proportion to the sods and lime rubbish, and that it should not be placed in layers, but was to be well incorporated together. The quantity of bones I shall use will be about two pecks for mixing with each nine-inch layer for a border, say, 10 feet wide and 80 feet long. He has correctly understood my meaning with respect to the two-inch layers. I see that I omitted to mention that the larger bones placed on the flags with the drainage should be raw and not boiled.

I shall be very glad if "H. S." will tell us all particulars about the ninety-four Vines he mentions, and how he made his border, the kinds of Vines he planted, &c. This is a subject so interesting to many readers of the Journal, that I am sure his experience will be very much appreciated. I could scarcely hazard an opinion about the growth of "H. S.'s" Vines without fire heat in such a season as we have just expe-

rienced, so much depends on the treatment and the locality. I am sure "H. S." need not be ashamed to state the truth about them. It would also be interesting to know the kinds which he has planted, the growth in length and thickness of each variety, and whether or not the canes are well ripened.—J. WILLS.]

NOTICE.

THE following letter was addressed to a correspondent, and forwarded by him to us for publication:—

"Having a few plants to spare of an entirely new and most delicious fruit from Java, of which the Emperor Napoleon has had several, and has expressed himself highly gratified with the fruit, I thought that perhaps you might like a plant.

"This beautiful tree grows easily in the stove, and is very dwarf in habit. The flowers are sweet-scented and large, followed by one of the most splendid fruits known.

"The plants are small, but very strong and healthy, and will be sent to any address on receipt of cheque for three guineas, extremely carefully packed in case. The tree will flower and fruit next year. The Emperor's letter can be sent to be read if liked.—J. HULLETT."

[We think it our duty, after what occurred relative to Mr. Hullett's Mangosteens and 14 lbs.-fruited Passiflora, to print this letter, and to state that we no longer have Mr. Hullett as a correspondent, and we advise our readers to be careful how they receive such representations.—Eds.]

VINES AND FLOWERING PLANTS IN THE SAME HOUSE.

I HAVE lately erected a greenhouse here of the following dimensions:—Length, inside measurement, 29 feet 6 inches; breadth of ditto, 16 feet; height of back wall, 14 feet 8 inches; height to front, 7 feet 4 inches. The front of the house is composed of eight sashes and a glass door, the latter being in the centre with four sashes on each side. The sashes are 4 feet high by 8 feet wide, and are all hinged so as to open to any extent desired, and due ventilation is effected by means of four sliding sashes in the roof. The front brickwork is about 3 feet inside, but only 1 foot 6 inches above the Vine-border on the outside. The house is heated by four-inch hot-water pipes, and the heat could be raised to 120° Fahr. if required. Now, can I have good flowers and good Grapes in this house?

I intend to plant ten Vines—that is, one at every second rafter. The length of rafter is 17 feet 6 inches. The distance between each Vine will be 3 feet 4 inches. The Vine-border is outside the house, and its breadth 14 feet. I have been given four well-grown Vines—viz., one Muscat of Alexandria, one Bowood Muscat, one Muscat of Hamburg, one Duchess of Buccleuch. Are these suited for such a house as mine, and, if so, what would you advise the other six to be?

The back wall is 29 feet 6 inches long, and 14 feet 8 inches high. In front of it—that is, between it and the flagged floor of the house, is a pit 2 feet wide and 3 feet deep. At the bottom of this I have laid 4 inches of broken stones, upon these two lengths of three-inch pipe, which are connected with a boiler (not the same as that heating the house), and are furnished with a stop-cock, so that the boiling water can be turned on or off at pleasure. I mean to put 2 inches of broken stones over these, then to cover the whole with turf cut from an old pasture, and to fill up the pit with maiden earth.

My present intention is to plant in this border six standard May Duke Cherries, the stems to be at least 6 feet high before they branch, and in the five intervals between these I would plant an Orange tree, a Lemon, a Lime, a Citron, and a Shaddock. These could grow to the height of 6 feet, and furnish the lower part of the wall—would they do in such a border? Besides this, I would use the border for propagating purposes. Along the entire margin of it the four-inch house-heating pipes run, while underneath heat is given by the three-inch pipes. Now, if I covered this border about an inch or so deep with silver sand, could I in spring strike what cuttings I wanted for bedding plants? Please to recommend me some book on the care of a greenhouse.—A SUBSCRIBER, *Ballinasloe*.

[You may have both fruit and flowers good if you be somewhat limited in your desires as to variety. In your proposed list of Vines you have marked so many Muscats and others requiring a high temperature, that you could only succeed with

plants in the house by having them in chiefly when the Vines were at rest; and if you wanted plants needing a high temperature at that time, then the Vines would have to be taken out of the house; and all proper greenhouse plants would, on the other hand, require to be taken out as soon as the Vines broke in the house after being taken in. Our advice would be, to be satisfied with late Grapes—say from August until towards the end of October, and then to grow plants which will either stand the shade of the Vines, or be capable of going out of doors after they have made the house gay all the winter and spring.

Our present remarks will, therefore, apply to the management of such a house. The kinds of Vines we would select are the following:—One Muscat of Alexandria (nearest the boiler), one Buckland Sweetwater, one Muscat of Hamburg, one Prolific Sweetwater, one Black Hamburg, one Trentham Black, one White Frontignan, one Black Champion, one Royal Muscadine or Golden Hamburg, one Lady Downe's. This would give you a White and Black pretty well alternately, and you may increase the Black Hamburgs.

The plants which we would chiefly grow, would be Chinese Primulas, Calceolarias (herbaceous), Cinerarias, Cyclamens, Cytisus, Acacias, Oranges, Camellias, Daphnes, Epacris, Pelargoniums, especially scarlet and fine-foliaged kinds, and Fuchsias.

Now, this is how we would manage such a house: We would plant the Vines inside if we could. In your arrangement they must be planted outside, but the stems should be protected. We would prune as soon as the fruit was cut, dress the Vines, and then fill the house with plants. We would keep the house in winter at from 40° to 45°, with a rise from sunshine of from 10° to 15°, provided air were given by the time the house approached 50°, but not hotter at night by fire heat than from 40° to 45°. With such management the Vines will not break much until towards April; and whilst breaking, and the bunches were showing, we would make no difference in the house until the latter approached the blooming period. Then we should like to keep the house warmer and closer than would suit the hardier plants, as Cytisus, Acacias, &c.; but they would go out of doors in a sheltered place, whilst Camellias, Oranges, Daphnes, Epacris, &c., would like the shade and the additional heat, and might either remain in the house or be taken out for a short time, as the Grapes became ripe and needed a drier air. By such management very good Grapes can be obtained.

In such a house, Cinerarias, Primulas, Cyclamens, Cytisus, Camellias, Epacris, Daphnes, Mignonette, Violets, &c., can be had in bloom all the winter and spring. The Primulas, Cinerarias, Calceolarias, Violets, Mignonette, Chrysanthemums, &c., can be prepared in cold pits, or out of doors in summer, and be housed by the middle of October. Early-flowering Pelargoniums will bloom in May, and in light places in June, and then may be turned out and cut down, repotted, and housed as above. Scarlet Pelargoniums will not only bloom in winter and spring, but they will flower all the summer, even in a little shade and a raised temperature, and may be pruned back, and started afresh. Cytisus and the whole tribe of Acacia will do admirably all the winter and spring, and may be turned out in a sheltered place by the beginning of May. The grandest plants of all will be the sweet Daphnes, Oranges, Camellias, and Epacris—the latter, the true Heath of Australasia, and as beautiful as Ericas, are just in their glory in such a house where they have a cool temperature to bloom in, and a high temperature in which to make their wood. This and the shade at that time just suit them, Camellias, and Oranges, in making their wood and setting their buds; and but for the damp required in watering, these might all remain as the Grapes became ripe, damp being kept from the berries by encasing the bunches in glazed bags, or cutting the bunches as soon as thoroughly ripe. Setting the plants out of doors in a sheltered place for a few weeks would do them no harm. We have not mentioned Azaleas, but all those which bloom early might be treated in the same way. Fuchsias kept in the cellar all the winter would thrive in the open parts of such a house in summer; and then if the house be kept closer and hotter for the Vines, if the Camellias, &c., were not enough, there might be a fine show from tender and half-tender annuals, as feathered Cockscob, true Cockscob, Browallias, and Cleome. Thus with a little management, even when the Vines were ripening their fruit, the house might always be sweet and gay.

One more subject we must allude to, and that is the shut-in border at the back of the house, 2 feet wide, 3 feet deep, with

a layer of stones below and above two three-inch pipes, heated from a separate source to that which heats the house. The length of the house is 29½ feet. Now, to do the best with this border, it must not be applied to too many purposes. It will make a first-rate propagating-bed or pit, supplied with sashes. It will also do well for growing fruit or flowers, but not answer two purposes well at the same time. You propose planting in this border, in good soil, six standard May Duke Cherries, and between these a Lemon, a Lime, a Citron, a Shaddock, and an Orange, which could grow to a height of 6 feet, whilst the Cherries could cover the other 8 feet 8 inches of the wall. Now, the Cherries could only be expected to succeed in a late vinery, or if in an early one, the fruit must be swelling nicely by the time the Grapes were showing their shoots, as nothing could be made of the Cherries without plenty of ventilation and a low temperature at first. Besides, bottom heat would be injurious to the Cherries, though it would be beneficial to the Oranges, Limes, &c. No better border or contrivance could be had for the latter, which would thus cover the back wall. The border would also answer well for Camellias, and when the wall was furnished it would always be a grand show in the winter and spring months. Shade and extra heat when the Vines were growing would just be suitable for the Camellias. With such a wall covered with Camellias, Oranges, Lemons, &c., there need be none of these in the centre of the house, except small plants. If, however, the wall were thus planted, we do not think you could do much with the side of the raised border in the way of propagating. The soil might be covered with small Ferns and Mosses. If you determine on making that border suit growing flowering plants, and also serve for propagating, you had better shut off so many spaces for the plants, as Camellias and Oranges, and have other spaces with nothing but stones and sand above the pipes, and then a glass over these spaces for propagating-purposes. We would prefer having it all devoted to one purpose, and for display, rich scent, and for fine colours, nothing would beat Camellias and Oranges.

Keane's "In-door Gardening" will suit you. You can have it free by post from our office if you enclose twenty stamps with your direction.]

CONIFERÆ.

I HAVE read with much interest in your columns accounts of exotic trees at Linton Park, and elsewhere, by Mr. Robson and Mr. Kent, who are deserving of thanks for the valuable information thus given. To satisfy the curiously exact, they have expressed with sufficient minuteness the size, the age, and progress of growth of each species, and distinguished the kinds which do and do not succeed well. Now, as they find (I allude more particularly to Mr. Robson's descriptions), that some of the species—for instance, *Abies Douglasii* at Linton Park—do not thrive well at one place, and yet succeed admirably in other localities, it would be very desirable if some of those gentlemen would complete their descriptions by explaining the positions—high or low, the nature of the soil—wet or dry, shelter or exposure, and the general treatment of the trees in question.

Many of the larger Conifers prefer a northerly or north-west aspect—most of them high ground; but although they are found in positions thousands of feet above the sea level, we must not suppose they are all equally well adapted for being planted in high and exposed places in this country. *Abies Douglasii*, *Wellingtonia*, and several of the *Piceas* naturally grow in high positions, but at the same time they come to the greatest perfection in the mountain valleys on the banks of rivers in deep alluvial soils. Some of the long-leaved Pines—*Lambertiana*, for example—are found in greatest vigour and size growing in almost pure sand.

My experience is that few of these trees can be cultivated successfully unless they have sufficient moisture, and at the same time the soil in which they are planted so drained, either by nature or by art, that no stagnant water can affect them. If *Abies Douglasii* succeeds well in one spot and not in another, the reason surely must be looked for in its position, soil, exposure, or treatment. It would be an additional desideratum supplied if we could be thoroughly made to understand the nature of the soil, its humidity, the position, shelter, or exposure, and manner of treatment those trees have enjoyed which thus fail to realise expectation.—UTINAM MIRET DICAS.

[Our correspondent, who resides at Brighton, has some ex-

perience in the culture of Conifers. In a private letter to us he says—

"I have upwards of seventy different species of Conifers, and I am interested in them. Mine are mostly very young, but if they do as well for a few years as they have done hitherto I shall have some fine specimens. I have an *Arancaria imbricata* which has grown 17 inches every year for the last five years, and there is not a brown leaf on any part of it. I have a *Pinus Gordoniana* which has grown this year 17 inches—second year planted—the shoot is nearly 1 inch in diameter, and the leaves 13 inches long, some more. I have an *Abies Douglasii* which has grown in an open space 2 feet 9 inches this summer."

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 6TH.

FLORAL COMMITTEE.—Messrs. Veitch exhibited at this meeting *Dendrobium bigibbum*, a pale lilac flower, with curious circular side petals, giving it almost the form of a Pea; there were only two or three flowers open, but when seen in better condition it will prove worthy of some distinction. Mr. Bull sent a small collection of plants, including several pots of the sweet-scented parasite *Cuscuta reflexa*, growing on Ivy. The white bell flowers are nearly the size of the Lily of the Valley, and give the plant a very pretty appearance. A special certificate was awarded the collection. A collection of Orchids from the Society's Gardens, South Kensington, including a fine specimen of *Odontoglossum grande*, was awarded a special certificate. Messrs. E. G. Henderson sent several plants of *Poa trivialis argentea elegans*, nicely arranged and bordered with a *Selaginella*. This Grass was previously awarded a first-class certificate under the name of *Cynosurus cristatus foliis variegatis*, which proved to be incorrect; it was shown on this occasion rightly named. Robert Warner, Esq., sent a cut flower of a *Lycaste* of the flava section, and James Bateman, Esq., cut flowers of *Clematis Jackmanni*, the plants having been in bloom for three months, and notwithstanding the late frost, still producing perfect and well-coloured flowers. From Mr. Shortt, gardener to Viscount Eversley, Heckfield, came cut specimens of *Ruscus aculeatus* with yellow berries. It is necessary that the history of this plant should be known before any decision as to its merits can be arrived at. The berries are slightly spotted with scarlet, which would seem to decide that it was a sport from *R. aculeatus*. It will be useful as a variety for rockwork decoration. Mr. Forsyth, gardener to Baron Rothschild, exhibited a very fine specimen of *Anthurium Scherzerianum* with six brilliant scapes in full perfection. A special certificate was awarded for good cultivation. Messrs. Lee, Hammermith, brought cut specimens of *Schizostylis coccinea*. These brilliant crimson spikes were cut from plants growing in the borders out of doors. In form the flowers resemble, to the general observer, those of the *Ixia*, but are botanically very different. It is a very useful plant for this time of the year. A special certificate was awarded the specimens sent; a first-class certificate was given by a Sub-Committee of the Floral Committee two years ago, but appears not to have been entered among the awards in that season. A collection of *Pelargoniums*, *Primulas*, &c., came from the Chiswick gardens; also a very interesting collection of berries, &c., consisting of *Cotoneasters*, *Crataegi*, *Snowberry*, *Crabs*, and similar fruit. These were much admired, and deserve attention from all gardeners; their varied and brilliant colours in the absence of foliage from deciduous shrubs make them very useful and highly ornamental.

FRUIT COMMITTEE.—Mr. Forsyth, gardener to Baron L. De Rothschild, Gunnersbury Park, exhibited three magnificent Pines, handsome in form and beautifully ripened—viz., two *Smooth-leaved Cayennes*, each weighing 7 lbs., and one fruit of *Charlotte Rothschild* 9 lbs. in weight. Mr. Forsyth received a special certificate for the latter, and a like award was made for the two *Cayennes*. A dish of English Pomegranates came from Mr. Downing, gardener to T. Grissell, Esq., Norbury Park, Dorking; and of *Mangoes* from Mr. Taplin, gardener to the Duke of Devonshire, Chatsworth. In shape the fruit were very like the Red Powis Mango, figured in the sixth volume of the Society's "Transactions," from fruit ripened in Earl Powis's garden at Waleot Hall, Shropshire, in September 1826, but instead of exhibiting a rich crimson cheek, the skin was of a dull yellowish olive colour. Mr. Melville, gardener to the Earl of Roseberry, Dalmeny Park, sent fruit of *Champion Frontignan Grape*, but the Committee considered it very similar to and inferior in flavour to *Muscat Champion*, a valuable variety previously raised by him. Grapes also came from the Rev. George Kemp, Stion College, London Wall, and consisted of good bunches of *Royal Muscadine*, grown on the slate roof of an outhouse. Of Apples, *Earlswood Pippin*, a seedling raised by Mr. Constable, the gardener at the Earlswood Asylum, was shown, but though of fair flavour, was not considered to possess any particular value; and from Mr. Downing, Norbury Park, there came a collection of twelve kinds, among which were fine fruit of *Gloria Mundi*, *Dumelow's Seedling*, *Blenheim Pippin*, *Warner's King*, an excellent kitchen Apple, and *Alfriston*, as well as *Barcelona Pearmain*, *Braddick's Nonpareil*, and other dessert kinds. A special certificate was awarded for the collection. Of Pears, Mr. Cox, gardener

to W. Wells, Esq., of Redleaf, sent remarkably fine specimens of *Beurré Clairgeau*; but as usual with this variety, the flavour was not equal to the appearance, which, indeed, is its chief recommendation. G. F. Wilson, Esq., Gishurst Cottage, Weybridge, contributed good specimens of *Chaumontel*, *Triomphe de Jodoigne*, and *Beurré d'Anjou*, grown in pots in an orchard-house, and the fruit on being tasted was found to be of excellent flavour; but the best Pear in this respect of any exhibited was *Doyenné du Comice*, from Chiswick, a delicious variety, which deserves to be more generally known and cultivated. From Messrs. Veitch & Sons, of Chelsea, came a collection of ten sorts of Beet, which was rendered all the more interesting from the circumstance of its being accompanied by cooked specimens. Besides the Silver or Sea-Kale Beet, of which the blanched leafstalks are the edible part, and the White Silesian, there were eight kinds of Red Beet—namely, Pine Apple, Cattell's Crimson, Dewar's Dwarf Red, Winton's, Veitch's Dark Red, two varieties designated as Hybrid No. 2 and No. 3, and Nutting's Dwarf Red. The last-named was considered by the Committee the best of all, thus confirming the conclusion at which they had previously arrived from a trial of the baked roots of the different varieties grown at Chiswick. A special certificate was awarded to Messrs. Veitch for the collection.

SCIENTIFIC MEETING.—W. Wilson Saunders, Esq., F.R.S., in the chair. After the election of four Fellows and the usual announcement of the awards by the Chairmen of the Floral and Fruit Committees, coupled with some remarks by these gentlemen on the subjects exhibited, Mr. Wilson Saunders directed attention to a curious and rather pretty *Cuscuta* exhibited by Mr. Bull, and growing as a parasite on Ivy. He remarked that numerous species of *Cuscuta*, or Dodder, are known, and that many plants are much injured by them, especially Clover, which is attacked by *C. trifolii*. On going over some of our heaths, also, it would be seen that the Furze had acquired a reddish hue, caused by a *Cuscuta*. Though that exhibited by Mr. Bull was ornamental, and deserved to be grown if it could be kept within bounds, still he thought it his duty to state that he knew of no plants which, if allowed to over-run, were more injurious than the *Cuscutas*, which, from rooting into the plants on which they grow, are extremely dangerous in houses. After directing attention to the yellow-berried variety of Butcher's Broom already noticed, Mr. Saunders remarked in reference to *Gunnera scabra*, that it produces its cone-like inflorescence pretty freely, and has a singular effect when this shoots up. The plant, however, not being perfectly hardy, requires some protection in winter, and the best mode of affording this is to cover it up with dry ashes, and over these to place straw or common Fern.

STOKE NEWINGTON CHRYSANTHEMUM SHOW.

THE twentieth annual Show of the Stoke Newington Chrysanthemum Society was held on Thursday and Friday last, and was even superior to the exhibitions of previous years in the quality of the specimen plants and blooms exhibited. Of the former, six from Mr. George, gardener to Miss Nicholson, which gained a silver cup in an extra class, were remarkably fine; indeed, among the finest we have seen exhibited. They consisted of Little Harry, Golden Cherub, Prince of Wales, Alma, Lady Hardinge, and Golden Hermione.

In the class for six plants Mr. Adam Forsyth, of Stoke Newington, was first with very fine specimens of Christine, Golden Christine, Alma, General Bainbridge, Mount Etna, and Annie Salter; and Mr. George, who was second, also had excellent specimens. Mr. Forsyth was likewise first in the class for four plants, with well-grown and finely-bloomed specimens of Alma, Christine, Golden Christine, and Virgin Queen.

Pompones were very well represented, Mr. Forsyth being first in the class for six, with *Andromeda*, *Darnet*, *Helène*, *Cedo Nulli*, and its *Lilac* and *Golden* varieties, all of which were in fine bloom; whilst the plants exhibited by Mr. Butcher, gardener to C. Ballance, Esq., Lower Clapton, who was second, were also very good. For four plants Mr. Forsyth was again first with *White Trevena*, remarkably fine, and other kinds already named, whilst Mr. Butcher was second with *Golden Cedro Nulli*, *Bob*, *Trophée*, and *Andromeda*. The same exhibitors occupied the same relative positions in the class for pyramid Pompones, of which they both exhibited very neat, well-bloomed specimens; whilst the standards of *Bob*, *Golden Aurora*, and *Cedo Nulli*, exhibited by Mr. Forsyth, were admirable, and would have graced a dinner-table.

Cut blooms were numerous, and in splendid condition. For twenty-four, Mr. James, of the "Rochester Castle," Stoke Newington, was first; Mr. Rowe, gardener to Mrs. Lewis, Roehampton, second; Mr. Morgan, Plymouth, third; and Mr. Howe, third. Among Mr. James's blooms we particularly noticed *John Salter*, *Prince Alfred*, *Prince Albert*, *Queen of England*, *Golden Beverley*, *Nil Desperandum*, and *Lady Hardinge*. For twelve: Mr. Rowe was first; Mr. Moxham, second; Mr. Morgan, third; Mr. Heale, Upper Clapton, fourth; Mr. Slade, Kingland, fifth; and Mr. Parker, Kentish Town, sixth—all with excellent blooms. *Empress of India*, *Prince Alfred*, *Prince of Wales*, and *Queen of England*, from Mr. Rowe, were extra fine. Another extra prize, a silver cup, offered for the best twelve blooms

was awarded to Mr. Moxham for unusually fine examples of *Novelty*, *Alfred Salter*, *Prince Alfred*, *Queen of England*, *Empress of India*, *Cherub*, *Princess of Wales*, *Prince of Wales*, *Lady Slade*, *Golden Beverley*, *Lady Hardinge*, and *Jardin des Plantes*. In the class for six blooms Mr. Abrams, and Mr. Watkins, of High Hill Ferry, Clapton, were first and second; Mr. George, third; and Mr. Walker, Upper Clapton, fourth. In the class for the same number of blooms exhibited by amateurs who had never taken a prize before, Mr. Perrin, De Beauvoir Town, was first; and Mr. Hutchings, Victoria Grove, Stoke Newington, second. An extra first prize for the best six new flowers sent out in 1885 and 1886 was awarded to Mr. Morgan, of Plymouth, for *Isis*, *Princess of Wales*, *Venus*, *Golden Dr. Brook*, *Hereward*, and *Mrs. Brunlees*; and an extra second to Mr. James, for *Golden Beverley*, *Sam Weller*, *Venus*, *Hereward*, *Virgin Queen*, and *Gloria Mundi*.

Of Anemone-flowered varieties there was a good show, and in the various stands were very good examples of *Prince of Anemones*, *Queen Margaret*, *Gluck*, *Louis Bonamy*, *St. Margaret*, *George Sand*, *Miss Margaret*, *Madame Godereau*, *Marguerite d'Anjou*, and *Fleur de Marie*. Mr. James was first; Mr. Snare, Dalston, second; and Mr. Howe, third. *Anemone Pompones*, with foliage, constituted a very pleasing class, in which there were several stands exhibited. That from Mr. James, who was first, was very good, particularly Mr. Astie, Regulus, *Rose Marguerite*, *Madame Sentir*, *Jean Hachette*, *Antonius*, and *Madame Montels*. Mr. Rowe, who was second, had also a very good exhibition.

Several extra prizes were offered besides those already referred to. Thus for twelve undressed blooms, Mr. Snare was first, and Mr. Howe second with wonderfully perfect flowers; and Mr. Salter, of Hammersmith, offered three prizes for "John Salter," which were carried off by Messrs. James, Rowe, and Moxham in the order in which they are named. Three prizes for *Gloria Mundi*, likewise offered by Mr. Salter, were taken by Messrs. Rowe, Slade, and Drain; and others were subscribed by members for *Golden Beverley*, and *Robert James*. For the former, Mr. Snare was first, Mr. Walker second, and Mr. Butcher third; and for the latter, Mr. James was first, Mr. Heale second, and Mr. Moxham third. From Mr. Morgan, of Plymouth, we noticed a promising white variety, called *Mrs. G. Randle*; and Mr. Forsyth had a first-class certificate for *Princess*, a pure white sport from *Prince of Anemones*.

It is but justice to add that Mr. Howe, Mr. Heale, and, indeed, the Committee generally, were most active in carrying out the arrangements of the Show, and that they were most courteous in affording every information to those who took an interest in the flower of which they had been the means of bringing together so excellent a display.

SOIL FOR VARIEGATED ZONALE PELARGONIUMS.

I FEEL somewhat diffident in taking up the cudgels against Mr. Pearson, who is so much my superior in gardening experience; but I feel that if the cultural hints given by him for variegated Zonales, in the last issue of the Journal, were left unquestioned, they might deter many from attempting the growth of these now popular and gorgeous plants.

Mr. Pearson says, "It is quite true that they will not flourish in common garden soil," and then proceeds to give a formula for the preparation of a soil taking nearly a twelve-month to mature, which I am sure would make many consider their culture a difficult matter.

Now, in my experience, I have found that there is not the least necessity for any such preparation, a good *Pelargonium* or *Fuchsia* soil being all that is required for their pot culture, and any fair garden soil for bedding out; in fact, from what they did here last year, I might say any soil would suit them.

I had last year five beds of *Mrs. Pollock*, and my soil is strong clayey loam, on a wet and cold clay bottom, and in planting they had but little more care than a lot of Cabbages; and yet, after being once frozen, they grew luxuriantly, with large and high-coloured foliage, and were the admiration of all who saw them. In their propagation I find little or no difficulty, either from eyes or cuttings, if you wait till they are fairly in growth in the spring. In the autumn, from being rather more liable to damp than common *Scarlets*, they require to be kept rather warm and dry till they are rooted, or if taken early will do well in the open border, when with ordinary care they may be successfully carried through the winter. I think that greater success would be attained were they treated more like a batch of *Tom Thumbs* than coddled up as we generally see them. I have found them, except in spring, rather impatient of heat, and the colouring of the leaves is far more intense under a cool treatment, coupled with a rather strong soil.

These remarks are made unpretensively; at the same time to record the fact, that variegated Zonales will flourish in common

garden soil, and in the hope that next year they will be found in many a garden where they are now strangers.—H. M. K., *Potter's Bar*.

LATE PEAS.

In your impression of October 30th, Mr. Record asks, Has any one tried the *Ne Plus Ultra* as a late Pea? To that question I reply in the affirmative, and I know it to be very superior. I have grown it for the last twelve years as a summer and late Pea. This year I gathered a very fine dish of *Ne Plus Ultra* on the 31st of October. A gentleman said that he never before tasted such Peas, and added that he had thought *Flack's Victory* to be the best, but that he has altered his opinion.

Carter's Victoria, *Ne Plus Ultra*, and *Veitch's Perfection*, are standing side by side in the garden here. They were sown about the 19th of June, and with the exception of being beaten about by the wind, which we are much exposed to in this part, they are in fine health and bloom; and should the frost let them alone, I hope to have some Peas for table in November.—*VERITAS, Middlesborough-on-Tees*.

THE TRUE VIOLA CORNUTA (THE HORNED VIOLA).

SINCE the first introduction of the *Iresine* to the public I have had many battles to fight in its favour, but I believe it is generally acknowledged to be all I ever represented it to be—a valuable acquisition to our gardens. Last year, 1865, many persons who saw the plant bedded here in large quantities, and looking so well (or, as the late Dr. Lindley said of it, very beautiful), declared theirs was not the same variety. However, since then they have acknowledged their mistake. Mismanagement was the only difference, and the same persons have told me their plants were this season finer than my own.

The question now discussing in the columns of a contemporary is the difference between *Allamanda Hendersonii* and *Schottii Hendersonii*. Some persons believe they can find a difference, others declare them the same. More care has been, no doubt, bestowed on the new plant, thence, possibly, the difference; but should they next season prove identical, I shall not be mistaken. Now, when doctors differ who shall decide?

The *Viola cornuta* question is now under discussion in these pages. That it is a valuable bedding plant there can be no question, but like the *Iresine* it must be properly managed. People have come here to see it and declare it the most lovely thing they ever saw. I have given them roots of it, and the next season when they visited Osberton they would complain that it does not flower well with them, while others state the *Viola* has been charming. So much for management. I can confidently assert that I have had it blooming so profusely here that the blossoms touched each other; in fact, as full a mass of blossom as it is possible to attain in any flowering plant.

My object in again referring to the above is in consequence of the tone of remarks made by Mr. D. Thomson in your columns last week. I will now quote the words I used in your Journal, and which have brought such a reply from Mr. Thomson—viz., "That I never met with more than one variety of the true *Viola cornuta*." I still assert I have not, neither can I find any reason to believe otherwise. In looking over all the letters I have had on this subject, including letters from those most interested in the *Viola*, I cannot find one that will boldly assert there is more than one true *Viola cornuta*. I did not write on varieties, hybrids, or sports, which may be brought forward to substantiate the fact of more than one variety; I speak of *Viola cornuta* true, and *Viola cornuta* only.

Before the present system of bedding came into vogue, and herbaceous borders were much thought of, we had many varieties of *Violas* that I fear have been entirely lost. That Mr. Thomson has two varieties of *Viola* there is no question. Where is *calcarata*? has this become mixed up with *cornuta*? If so, this will at once account for the difference of habit. This is a very old kind. Again, *V. montana* has been sent to me for *V. cornuta*, and others which I never expected to have seen or heard of any more. Indeed, I have had so many flowers and pieces of plants sent by post that I am becoming tired of the name of *Violas*.

Viola cornuta is a native of the Pyrenees. I cannot say exactly how long it has been known in this country, though I could venture to say fourscore years and ten, and it has been grown for upwards of fifty years at the place I received my stock

from. Its true height is about 6 inches; it is neither particularly procumbent nor upright, and flowers very profusely; it is propagated by cuttings; the colour is a light mauve. This is a true description so far as can be given, but with respect to height and colour, both vary under different ways of culture. In some long lines planted here it does not reach 6 inches in height; in other places I have it 12 inches high. The colour also slightly varies with the soil.

As I stated before, no one knows how to manage this plant better than Mr. Wills, and the way in which he does it has been the means of creating quite a mania for it.

I am pleased to see Mr. Thomson speak so highly of *Tagetes signata pumila* in the north. Four years ago, when I first recommended this for bedding and ribbon-borders, I was told I extolled it too much, but time has proved I was correct.—*EDWD. BENNETT, Osberton Hall, Worksop*.

THE PLUM AS AN ORCHARD TREE.

PERHAPS some of your readers will be interested in the few notes we give below on the subject so well touched upon by Mr. Robson in your last week's impression, and we will, as he requests, first set him right in the name of the Plum "*De la Sue*," (the local name), but which is *La Delicieuse* or *Cooper's Large Plum*, a fine market sort and a great bearer.

The *Diamond Plum* originated at Brenchley, in Kent; and was named after the raiser, who was foreman to Mr. Hooker, of the (then) Brenchley Nurseries. There is also one in cultivation called the "*Dummer*," which is the same kind. The *Diamond* is in great demand, being a showy market Plum, and if gathered a few days before ripening it retains a fine bloom and travels well.

The *Prolific Damson* is a very abundant bearer. We have seen young trees with as many fruit as leaves, and in many places the shoots were completely hidden by the clustering fruit. It is also called locally the "*Cluster Damson*," "*Farleigh Damson*," and "*Crittenden's Damson*." We have had fruit on maiden trees in our nursery gardens. It has been but four or five years in the trade, and is not so widely known as its merits deserve. A vast quantity of these and other *Damsons* find their way into cheap Port wine.

The *Cheshire Damson* is largely grown, and the old sort with *Bullacbs*, is generally planted at the edges of plantations for shelter, to "break the wind" as the farmers say. Besides those named by Mr. Robson, the following are coming into repute with fruit-growers:—

Prince Englebert.—A sturdy grower, and a free-bearing kind; its upright growth is greatly in its favour, and the fruit, though large, is not liable to crack.

Mitchelson's Damson.—As large as a small Plum, a free grower, and a heavy cropper. It will take first rank as a market Plum; though it has been known in the London markets for some years, it was only recently introduced here by us.

Rivers's Early Prolific and *Rivers's Early Favourite* are being more planted every year. They are most valuable sorts; the fruit finds a ready sale at a long price, and the trees though fine-wooded are pretty strong in a few years, and bear well.

Bush Plum.—A very valuable market Plum; its late season and abundant cropping make up for its deficient flavour. It is largely grown in some parts of Kent. A sturdy grower, and not so liable to split and break as many *Plums* are. It is a good kitchen Plum; medium-sized fruit.

We also anticipate that the following—*Cox's Emperor*, *Denniston's Superb*, *Jefferson*, *Autumn Compôte*, and probably *Isabella*—will be largely grown in a few years; but, as Mr. Robson says, the growers for market "regard innovation with suspicion," and it takes a long time to convince them of the superiority of any fresh sort, however desirable, and it is perhaps right that they should act with caution. We ourselves have found many *Plums* that promised well quite useless for market purposes, though the sorts may have been welcome additions to a gentleman's garden under wall and bush culture.

We have heard a grower say that from four to five hundred bushels have been gathered off an acre of *Plums* in good order. The price varies considerably, according to the crop, and it is perhaps as well the yield this year was small, as the prevalence of the cholera has been much felt by fruit-growers this season, and it would have been difficult to have sold the fruit at all had there been such a crop as in 1865. They sometimes *isteb*

as much as 20s. per sieve (bushel), for early sorts, and the price has been as low as 1s. 6d., but the average of four or five years would give 4s. to 5s. per sieve. Two advantages Plums have over other standard fruits—they soon make a return for the first outlay, and they fill up the void between the Cherry crop and the harvest of Apples and Pears.—THOS. BUNYARD AND SONS, Maidstone.

IRELINE HERBSTII.

I CAN unreservedly give my testimony from the west as to the value of this plant for flower-garden decoration. I have this season seen it at many places round here, and it was everywhere doing well. From about the end of July to September (I write from observation), it formed masses of a beautiful bronzy crimson, yet varying much in tone of colour according to situation and culture; from September to the present time all the plants which I have seen appear to have changed to a more crimson hue, greatly enhancing the usefulness of the plant for late decoration.

In my home garden, in the centre of the town of Taunton, I have a circle of the Iresine, close and regular in growth, 1 foot high, and 1½ foot through, it having been stopped and thinned out only twice during the season. It is of such a bright colour as to offer a perfect contrast to the Perilla, constituting another row in the same bed. I have found a good number of branches of much brighter colour than others; these I have carefully cut out, and I hope to propagate them and perpetuate the colour.

I plant out strong plants, making the soil rich, and give plenty of water. I contrast the colour with light-foliaged plants or yellow Calceolarias, by which means its beauty is greatly heightened when not quite so bright as at present.—ROBERT H. POYNTER, Taunton.

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

BRACHYSTELMA BARBERIE (Mrs. Barber's *Brachystelma*).—*Nat. ord.*, Asclepiadaceae. *Limn.*, Pentandria Digynia. Native of the river valleys of Kaffirland, South Africa. A tuberous-rooted plant.—(*Botanical Magazine*, t. 5607.)

NIEREMBERGIA RIVULARIS (Water Nierembergia).—*Nat. ord.*, Solanaceae. *Limn.*, Pentandria Digynia. Native of the banks of the river La Plata; introduced by Messrs. Veitch, Royal Exotic Nurseries, Chelsea. Flowers white.—(*Ibid.*, t. 5608.)

NOTYLIA BICOLOR (Two-coloured *Notylia*).—*Nat. ord.*, Orchidaceae. *Limn.*, Gynandria Monandria. A diminutive gem, about 1½ inch high. Found on Oaks in the mountains of Comalapan. Flowers lilac, spotted with blue.—(*Ibid.*, t. 5609.)

GLYPHÆA MONTEIROI (Monteiro's *Glyphæa*).—*Nat. ord.*, Tiliaceae. *Limn.*, Polyandria Monogynia. Native of Sierra Leone, and other parts of western Africa. Flowers yellow.—(*Ibid.*, t. 5610.)

VANDA BENSONI (Colonel Benson's *Vanda*).—*Nat. ord.*, Orchidaceae. *Limn.*, Gynandria Monandria. Native of Rangoon; sent by Col. Benson to Messrs. Veitch. Flowers yellowish green, with reddish brown spots.—(*Ibid.*, t. 5611.)

PENTSTEMON JAFFRAYANUS.—Supposed to be a cross between *P. speciosus* and some other species. Light blue streaked with purple.—(*Floral Mag.*, pl. 813.)

FANCY PELARGONIUMS.—*Sylvia*, pink with white border. *Liberty*, crimson with white border. Raised by Mr. Turner, of Slough.—(*Ibid.*, pl. 814.)

GLADIOLUS.—*Milton*, creamy white, flamed with pale crimson and purple. Raised by M. Souchet.—(*Ibid.*, pl. 815.)

ALTERNANTHERA SESSILIS var. *AMCENA*.—A variegated-leaved variety. Leaves variously coloured with crimson, yellowish brown, and green.—(*Ibid.*, pl. 816.)

PELARGONIUM.—Dr. Hogg—"This was raised from the original stock of Beaton's hybrids, by Mr. Wm. Paul, of the Nurseries, Waltham Cross. Beaton's race is now so widely known, and so generally appreciated, that it scarcely requires any commendation at our hands. The majority of kinds have been planted extensively in the Royal Gardens at Kew, and at Battersea; and while by means of their introduction the range of colour among *Pelargoniums* is materially extended, it is also found that these hybrids flower more profusely, and are less spoiled by the weather—be it sun, wind, or rain—than the kinds derived from other sources. Alexandra, Amy Hogg, Indian Yellow, Duchess, Glowworm, Orange Nosegay, Mrs. Wm. Paul, and Waltham Seedling, are now almost universally known

and appreciated; and their successors Fairy Queen, Nimrod, Peach Nosegay, Rebecca, St. George, Sir J. Paxton, Lord Chancellor, Tiara, Salmon Nosegay, and Waltham Lilac, have already found their way into many of our principal gardens. Dr. Hogg, which is as yet in the hands of the raiser, and will not be sold before May, 1887, is an improvement in form on the preceding, and has more of the blue or purple shade of colour than any previously announced. When shown in the subdued light of the exhibition tent it has some resemblance to Amy Hogg, but when seen in masses out of doors, in the full clear light of day, it is of an entirely different shade of colour; and the plant is of so dense a growth, and the flowering so free, that it is worthy of a place in the most limited flower garden."—(*Florist and Pomologist*.)

NOTES AND GLEANINGS.

THE gardeners' examinations, to which we referred in our last, have been fixed to be held at the office of the Royal Horticultural Society, South Kensington, on Tuesday, the 18th of December, and all candidates are requested to send in their names to the Secretary of the Society not later than Tuesday, December 11th. Any further information may be obtained by communicating to the Secretary.

It has been finally determined that the long-talked-of Royal Horticultural Society's country Show shall be held at Bury St. Edmunds next year, in conjunction with that of the Royal Agricultural Society, the corporation of Bury and the local Horticultural Society having nobly come forward and guaranteed the sum of £600 towards the expenses.

We regret to learn that a large number of the salmon in the Royal Horticultural Society's gardens at South Kensington have been accidentally destroyed whilst some of the water-pipes were under repair, probably poisoned by red lead used for that purpose.

BOUSSINGAULT in his researches on the action of foliage has shown—

1. That leaves exposed to sunshine in pure carbonic acid do not decompose this gas at all, or only with extreme slowness.
2. But in a mixture with atmospheric air, they decompose carbonic acid rapidly. The oxygen of the atmospheric air, however, appears to play no part.

3. Leaves decompose carbonic acid in sunshine as readily when this gas is mixed with nitrogen or with hydrogen.

He proves that a leaf which has been decomposing carbonic acid and water all day long is capable of doing the same work the next day, if not allowed to dry, but the losing of a certain amount of water annihilates this faculty, and irremediably destroys the life of the cells of a leaf, vegetable life in this state being far less tenacious than that of some of the lower animals (Tardigrades, Notipes, &c.), which bear wonderful desiccation.

It appears that detached leaves, kept in shade for many days, with the cut end of the petiole in water to prevent desiccation, preserve the power of decomposing carbonic acid whenever brought into sunshine. But for this they must be kept in an atmosphere containing a supply of oxygen; without this they soon die, as Boussingault thinks, from asphyxia. The oxygen in darkness is slowly transformed into carbonic acid, through an operation which is presumed to go on continually, whether in light or darkness, and to answer to respiration. Of course a healthy and active leaf decomposes far more carbonic acid in the light than it forms in darkness. In eighteen experiments with Oleander leaves exposed to the sun from 8 a.m. to 5 p.m., in an atmosphere rich in carbonic acid, a square metre of foliage decomposed on the average over a litre of carbonic acid per hour, while in darkness only 0.70 of a litre of carbonic acid was produced per hour. In air which contains oxygen and carbonic acid, leaves will go on indefinitely producing oxygen in the presence of carbonic acid, and carbonic acid in the presence of oxygen. But the latter, though relatively small in amount, seems to be necessary to the preservation of their vitality. In hydrogen, carburetted hydrogen, or nitrogen, as well as in pure carbonic acid, they soon lose their decomposing power, and die from the impossibility of respiration—i.e. are asphyxiated.

Leaves confined in a limited portion of atmospheric or other air over mercury, lose the power of decomposing carbonic acid; and the experiments pretty clearly show that they lose it through the deleterious action of the vapour of mercury. It is thought remarkable that the leaf does not under these circumstances at all lose the power of transforming oxygen into

carbonic acid; but that is what we should expect, for the carbonic acid so evolved (whether its evolution be called respiration or not), must be a product of decomposition of the leaf's contents or substance.

We owe to Boussingault and his assistant Lewy the idea of determining the composition of the air contained in a fertile soil, and the fact that this air in a strongly-manured soil contains a very large per-centage of carbonic acid. Boussingault has now devised an experiment by which the air contained in a branch of an Oleander in full vegetation was extracted. It proved to be nitrogen 88.01 per cent., oxygen 6.64, carbonic acid 5.35 per cent.,—being about the composition of the air from a well-manured soil. This carbonic acid carried into the leaves with the sap, and also that which they may absorb directly from the atmosphere, decomposed along with water under sunlight, must be the source of the glucose ($C_6H_{12}O_6$), which it is the principal function of foliage to produce. This glucose, in fixing or abandoning the elements of water, becomes sugar, starch, cellulose, or other hydrates of carbon, which, in whatever part of the plant accumulated or deposited, and however transformed or re-transformed, must always have originated from carbonic acid and water in the green parts of plants. In closing his present paper with some illustrations of this now familiar view, Boussingault announces that his more recent experiments will enable him to demonstrate the direct formation of saccharine matter by the green parts of vegetables exposed to the light.—(*American Journal Sci. and Arts.*)

WORK FOR THE WEEK.

KITCHEN GARDEN.

CONTINUE to encourage the planting of crops in every respect as previously directed. *Broccoli* and *Borecole*, continue to hoe between. *Celery*, *Cardoons*, and *Leeks* should be earthed up in dry weather. *Cabbage*, clear up all decaying leaves, &c., and stir the surface of the soil on dry days among growing crops, as also *Spinach*, and let all vacant ground be manured and ridged. *Endive* is blanched for salads and kitchen use in various ways; but the method which we prefer is, after tying up as much as will be required for blanching at one time, to cover it with dry leaves and throw a little long litter over it to prevent them from being blown about. *Mushrooms*, take advantage of wet days for making fresh beds and clearing out those that are spent; also collect and prepare droppings for forming fresh beds by spreading them in a shed and turning them over every day until they are sufficiently dried to prevent excessive fermentation after putting up. *Peas*, a sowing of these and of *Beans*, to afford the chance of a very early crop, may now be made, choosing a sheltered piece of ground for the purpose; the soil should be of a very light, dry character. For *Peas* use an early hardy sort, such as *Sangster's No. 1* or *Daniel O'Rourke*. *Rhubarb*, the forcing of this and of *Sea-kale* must now be attended to, and where there is a good stock of strong roots, a supply of these will be easily kept up. Where there is room to spare in the Mushroom-house this forms a very suitable and convenient place for forcing them. The roots should be placed on a slight bed of warm dung, filling up the space between them with old tan, or the soil and manure, mixed, from an old Mushroom-bed, giving a good watering to wash it in amongst the roots. The bottom heat should not be allowed to exceed 70° , as too much heat is not favourable for securing strong growth, and, except for the first crop, it may be dispensed with altogether. *Radishes*, if not already done, sow a crop in a frame for winter. *Spinach*, *Winter*, stir the soil between, and thin out to 16 inches apart.

FRUIT GARDEN.

Pruning and nailing should now be commenced. Much more can be accomplished in a day and with greater ease when the weather is mild. Lay the wood in without a superabundance of shreds; a good eye and a quick hand are the essentials in this matter. Let the shreds correspond with the size of the wood, for what an absurd appearance is given by the use of large, wide shreds to small shoots, or the reverse. Prepare shreds and clean nails in wet weather, and make the best use of them you can while the weather is mild.

FLOWER GARDEN.

Choice plants in borders intended to be protected for the winter by slightly covering their roots, &c., should be seen to at once. Moss, where it can be obtained in good thick flakes, is by no means a bad protecting material; but unless it can be procured in pieces of considerable thickness it is not so effi-

cient or useful as spent tan, coal ashes, or half-decayed leaves. Also attend to *Fuchsias*, and such plants as are usually protected for the winter by coverings, so as to secure them against frost before it is too late. Dry Fern is an excellent material for covering the stems of plants that require slight protection in winter, and is, doubtless, the least objectionable as regards colour of anything at command; but this is not easily procured in many neighbourhoods, and probably the best substitute is straw that has been exposed to the weather sufficiently long to darken its colour. Choice sorts of *Hollyhocks*, of which there is not a sufficient stock of well-established young plants in pots, should be taken up and potted now, and placed under glass. These cannot with safety be trusted to the mercies of a severe winter, and plants taken up now, potted, and wintered in a cool house, will be exceedingly useful for furnishing cuttings, and these if put in early in spring will make excellent plants for next season. Where alterations are in hand, push these forward with all possible dispatch while the weather continues favourable for out-door operations. Be very careful to secure transplanted subjects against the wind, especially large plants, which should never be left before they are properly staked or otherwise made fast, for when this is put off it frequently happens that the roots are injured, owing to the tops being rocked about by the wind. Let any alterations intended in the shrubbery or pleasure grounds be completed as soon as possible. This is one of the finest autumns for planting that we have experienced for years. When every gentleman planter shall be at as great pains to beautify the distant landscape as he is now and has been at for years in embellishing that near his residence, the country will present a very different appearance; and had the various soils been planted with the trees best suited to them and to their situation, our spring, summer, and autumn scenery would have displayed a greater variety than at present.

GREENHOUSE AND CONSERVATORY.

The summer-flowering twiners will usually become unsightly at this season, and should be cut back somewhat freely. The slight shade which they afford in summer to plants underneath them, it need scarcely be stated, is not now required. Let pot specimens in bloom be frequently re-arranged, so as to make the most of them, for the finest plants become too familiar to be interesting when allowed to remain too long in one place. Little can be said as to these departments at present, the advice of the last three weeks may still be carried out. It may be added—Do not use fire heat to any of the mere winter houses or pits, unless a necessity exists.

COLD PITS.

If not already done, let straw shutters, or whatever else it may be intended to use for coverings for these, be prepared and put in readiness for use without delay. Straw shutters, if well made, are somewhat expensive in the first instance, but they are considered by many to be the most efficient covering in use, and taking into account the time they last, they are, perhaps, as cheap as any. Expose the stock here freely to air on every favourable opportunity, so as to check growth and make the wood firm, in which state the plants will be less liable to suffer from the confinement which may soon be necessary than if kept close and coddled with too much warmth and moisture. Very little water will be required at the root, but look over the stock every few days, withholding water until it is absolutely necessary, and then give a moderate soaking, which is the only safe method of watering at this season. If green fly make its appearance on any of the softwooded plants, apply tobacco smoke, and see that this pest is extirpated at once, otherwise it will disfigure if not ruin the plants upon which it is allowed to harbour. Heaths and other plants subject to the attacks of mildew must be closely watched, and sulphur applied the moment the enemy is perceived; but neither this nor green fly will be very troublesome unless the plants are kept too close and damp, therefore be careful to keep the stock rather dry, giving plenty of air whenever that can be done with safety. The pits and frames containing *Auriculas*, *Carnations*, and similar plants, should have the lights drawn off every fine day. If any of the plants should want water, give it sparingly, and only to those in actual need of it.—W. KEANE.

DOINGS OF THE LAST WEEK.

Drainage.—This may not be the best time for commencing operations, but it is often the most convenient when there is a slackness of other work, and there are few places where drain-

age is not wanted. Even in soils where, owing to the open subsoil, deep drainage is not necessary, and would only be a needless expense, much may often be required in order to carry off and to husband superfluous surface water. Even in a sanitary point of view, unless in the case of diseased lungs, a dry atmosphere is generally more healthy than one loaded with moisture, and the air that passes over stagnant moisture will not long remain pure and healthy. "The Metropolitan Sanitary Commission gives some interesting facts about drainage. For every inch of depth of water drained off, which would otherwise pass into the air as vapour, we are told as much heat is saved per acre as would raise 11,000 cubic feet of air 1° in temperature. The dew point is also raised, hence less mist; and dampness, as we all know, is more uncomfortable than cold. A farmer, says the Parliamentary Report on drainage, was asked the effect of some new draining, 'All I know is,' replied he, 'that before it was done I could never get out at night without a great coat, and now I never put one on. It just makes the difference of a coat to me.' A doctor took one of the Sanitary Commissioners to a hill overlooking his district. 'There,' said he, 'wherever you see those patches of white mist, I have frequent illness, and if there is a cesspool or other nuisance as well, I can reckon on typhus every now and then. Outside the mists I am rarely wanted.' Damp, it seems, gives double energy to ill odours of all kinds. What a pity everybody cannot live on a hill side with a good gravel subsoil."—(*Pall Mall Gazette*, October 23rd.)

As already hinted, the dry hill side would not do for every one, but the Boards of Health have done great good in our country towns, villages, and hamlets, by insisting on the removal of nuisances. It is a pity that such energy is chiefly exemplified after typhus and cholera have commenced their ravages. Even when cottages and mansions are built in a valley, much may be done to insure health and comfort by securing dryness all round the homestead. The seething pool and the dunghill close to the doorway will soon be among the things of the past. Often now, however, the workman as he goes to his homestead must pass through mud and pools of water, when, if such surface water had been collected in a rough pool or reservoir at the farthest point from his dwelling, it would have been invaluable in summer for gardening purposes.

We used to have much trouble with wet pits and flooded stokeholes, until we sent the surface water from heavy rains to a large pool at a distance, and which proved invaluable in summer. With more of such clay-puddled receptacles enough of water could be collected from hard-surfaced walks alone to make us pretty well independent of the driest summers, and something of the kind could be done in many a cottage garden, where now there is not a drop of water to give a plant in summer. In many places where drainage is necessary, it would be desirable to store at least a portion of the drainage water for use in dry summers.

In some low-lying positions, where there is scarcely an outlet to be found for surplus water and house slops, a deep dumb-well is often resorted to; but this, to be safe, should be at the farthest possible distance from the house, and the farthest possible distance from the water well, as until the sides of the dumb-well are thoroughly encrusted, there is the danger of a connection being formed through the different strata from one to the other; and no such percolation, though it may make sewage water perfectly clear, will deprive it of the organic matter which it holds in solution.

In order to insure ease to the inhabitants of small, well-arranged houses, there is often a trapped sink near the back door to receive all offensive liquid matter to be taken to a main drain or dumb-well. In such a case three things should be attended to: The joints of the conducting pipes should be cemented; the cesspool, in addition to being trapped, should have a cover over the grating; and the landlord should see that the sinks are kept clean and clear. There is such a difficulty in making people attend to the latter matter, that in all cases where there is a garden attached behind the cottage, it would be as well to have no cesspool near the house, but to have all soap-suds and other slops carried to the manure-heap or water tank at the spot farthest from the dwelling-house. It is generally better, too, that the water-closet, &c., should be placed there; and the manure-heap, which will do so much to promote the fertility of the garden, and be all the richer from receiving the slops, can be cured of all unpleasant effluvia by frequently sprinkling dry earth or any earth over it. If there is a slop-water tank, that could be covered to keep all noxious

vapours down. Much may thus be done to secure health and comfort, and with but little outlay—with none, we may say, which the extra value of the manure would not pay.

KITCHEN GARDEN.

Cabbages.—What used to give us no trouble are now becoming a source of anxiety, as all our netting will not keep rabbits, and especially pheasants and partridges, from attacking the plants. The wet weather, too, has been unfavourable to them, by making the young leaves and their little centres so tender as to tempt depredators such as those referred to. If so destructive now with so much else to choose from, we see little chance during the winter except in netting the ground all over a couple of feet or so above the plants.

Carrots.—Took up in dry days, as the drier they are taken up the better they will keep. Nothing is better for packing them in than dry sand, and hardly anything is worse than sawdust whether wet or dry. They do very well in thin layers, with leafless branches of trees separating the layers.

Parsnips may remain in the ground if it is not wanted, but packed in sand they will keep as well out of the ground as in it.

Beet should now be carefully raised and as few fibres broken as possible, and the top leaves merely twisted off. A little frost often greatly injures this valuable component of the salad-bowl.

Salsafy and Scorzonera may as well be housed.

Globe Artichokes.—Dug the ground, enriched with a coating of manure, among the stools, and ere long will put some burnt earth over the latter, and cover with a little litter held in its place by some clods of earth. Now or in the spring is a good time for taking away some large pieces with the spade and mattock, and planting a fresh row or two, as these will bear much later in the autumn than the old plantations. For such plantations the ground should be well trenched and well manured, and the plants be protected from extreme frost, like those established in their position. A very little litter will keep the frost from penetrating to any considerable depth, just as a covering of snow will keep the soil beneath it, if not previously frozen, from falling much below 32°.

Sea-kale.—Cleaned most of the plantations, and put dry burnt refuse over the crowns to keep vermin from them. Will take up a lot for forcing ere long. No better plan for small establishments, where there is no Mushroom-house, can well be resorted to than the following:—Build a small hotbed—say about 18 inches deep, and 80 inches wider and longer than a bottomless box—say 5 feet long and 3 to 4 feet wide, and from 18 to 24 inches deep. Set the box on the bed and place in it some leaf mould, and on that pack the Sea-kale roots, leaving the crowns a couple of inches or so apart, and then cover with the leaf mould or ashes, and settle with watering. If there is rather much heat, a few holes may be bored through beneath the box to let air among the roots and into the atmosphere of the box, or the lid may be left open. If not quite enough heat, litter may be placed round the bed and over the box, and this, as regards the latter, will require to be done in severe weather at any rate. The moving of the lid will enable the manager to see in a moment the condition of the Sea-kale, and such a box will furnish a large amount of cutting. A couple of boxes kept going would supply a large establishment.

Rhubarb.—This may be done in the same way, but if blanched Rhubarb is objected to, a light might take the place of the lid of the box. We have alluded to many other modes of obtaining this vegetable early.

Asparagus could also be obtained in the same way, and used when long enough, if the blanched colour is not objected to; or the shoots may be cut and allowed to stand, with the ends on damp moss, wool, or paper, in a saucer, in the window of a living-room for several days before cooking; but for early work no plan is better than taking up the roots and packing them close together over a hotbed, with a frame and clean-washed sashes over it, plenty of air being given in mild weather, but bearing in mind that great draughts of air in cold weather will be apt to make the points of the shoots hard and stringy. By the above mode fine, green, succulent, tender heads may be obtained easily, but at the expense of the destruction of good roots. For late general supplies beds forced where the plants grow, as we have several times recommended, are the most economical. It is seldom that the roots are fit to force when less than three or four years from the seed.

Turnips.—Took up a lot and cleaned them, and put them in a heap to be covered with litter. This is better than allowing too many to run the risk of being frosted and nibbled in the ground. They are also kept more juicy and sweet than when

allowed to become too large. Turnips for table should rarely be so large as a common-sized fist.

Swedish Turnips are the best for yielding blanched tops, which make a nice dish for variety, and may be had wherever there is a little heat and little or no light. Like Sea-kale, they are best when cut short, say not more than 6 inches in length.

Heating Material.—For all such temporary hotbeds nothing is better than mowings and sweepings of leaves from the lawns and pleasure grounds, especially if a little litter can be mixed with them, and some half-rotten material can be placed over all to keep down the steam, and dry earth does well in an emergency. When such rough material is used, not merely for linings but also for beds, it is as well to pile it together—leaves, mowings, &c., so as to heat violently, which it will be sure to do, in order to kill or drive away everything in the snail, slug, and grub line, as otherwise plenty of these marauders will take up their abode in the bed, and be apt to do much injury.

Tree Leaves may be collected in any condition, wet or dry, when to be used for present purposes, and if they ferment unmixed with stable manure, we have never found a plant which the gases from their fermentation would injure; but when it is desirable to keep these leaves to make the most of them for future purposes, for giving out their heat by fermentation and decomposition, then they cannot be stored too dry. If no large open shed can be used for this purpose, they will keep very well in a heap out of doors either in the conical or the oblong stack form, pretty well trodden, and a little litter thrown on to prevent the wind having its way with the outside leaves. When once the outside becomes a little caked no rains or snows will penetrate more than a few inches. When taken out for use, if very dry the leaves may be easily sprinkled with water to cause fermentation. We have taken dry leaves out of such heaps as fresh nearly as when gathered, after being collected for three years. Of course, if taken home damp they would have caked, heated, and decomposed. Of all leaves Oak leaves are the most lasting, and for heating-purposes therefore the most valuable. In deep pits we have turned them up fresh at the bottom after having lain there three years; and when broken up, and moistened if dry, they were as good as ever for yielding a mild regular heat. Such facts are proofs positive that even the substances most easily decomposed, and which during the process of decomposition give out the desirable heat, will not decompose when air and moisture cannot reach them.

Just as in the case of a tan-bed, in which a very strong violent heat can be obtained by mixing old half-decayed tan with that fresh from the tanyard, so a strong heat can be obtained by mixing caked half-decayed leaves with fresh-collected ones; but a more genial lasting heat, and with less waste of materials, will be obtained by keeping the new and the half-decayed separate. In many cases it will be best to have the fresh at the bottom and the older at the top. When a bed of leaves fails to give enough of heat, the turning of the bed will, from the admission of air, cause decomposition to commence afresh, more especially if a little water is added if the material is dry. These details, though of little moment to some, where materials are abundant, are of no small consequence to those who must extract all the possible heat from decomposing substances before they are turned aside for manuring-purposes, too rotten to yield any heat from farther decomposition.

Leaf mould is one of the most useful materials in a garden, and is most useful when well aired after it has been reduced to a fine mould, as previously to that period it is often a good lodging place for different fungi, which by such means gain access to and do much injury to the roots of plants. We have known cases of Vine roots being much injured by rough scarcely half-decomposed leaf mould, or rather, half-decayed leaves, being mixed with the soil, and the fungi carried with them spreading through the soil and attacking the roots.

In stacking turf, even for future compost mould, we have found some stacks next to useless by being penetrated with masses of deleterious spawn before the soil was fit for use, and, consequently, it could hardly be used for any purpose until it was treated with hot lime and hot water, and turned so as to get at the spawn, and then be aired and sweetened. A few pieces of fungus spawn in a turf or two, when these turfs are built up in a stack and kept dry, will very likely in the course of twelve months spread through most of the stack: therefore in taking up the turf a keen eye should be kept on any appearance of spawn, and the turf-man should keep at a distance from all fairy rings.

Mushrooms.—There has been enough about these lately; but we are reminded of them here by "Maude's" pleasing article at page 328, and she, we have no doubt, would be successful in growing them as well as in eating them; but we would urge the growing them all the more because there is danger in partaking of the things called Mushrooms which are too often used for cooking, and especially for ketchup. The boiling and the spices lessen the danger in the latter case; but even then the danger will be less in proportion to the less quantity that is used. We have had to supply Mushrooms to those who would on no account have eaten them if they had known we had sent a single Mushroom for the table from a field or pasture, and there can be no question that those cultivated in beds are the safest, and can be had small or large, thick or thin.

A second reason is to chronicle the fact, that the bed that was rather hot, alluded to lately, was soon rendered all right by the slight covering of turfy soil lightly beaten, which thus kept out the air and arrested active decomposition. That piece, the first in the Mushroom-house, has now been spawned, and earthed, and beaten down, the surface being rendered smooth by watering and drawing a clean spade firmly over it. A third reason is to state that in the next bed (formed of sweetened litter and a coating of horse-droppings, altogether about a foot thick) owing to the dung and droppings being too wet, though there was plenty of heat, the top part, from the heat and moisture rising, became much too hot for thrusting the spawn into it. If we had been in a hurry we would have wrapped each piece of spawn in a handful of short dry litter, and inserted it with the moist dung round it as soon as the heat was correct, as alluded to the other week; but as we were in no hurry we preferred improving the texture of the bed by cutting some dry litter short with a billhook, and mixing it with the top, which was rather damp. Straw cut with a chaff-cutter would have been better, the straw being cut into two-inch lengths or so; but the billhook and a block soon did our work with the driest litter. This has given us the desired texture as to dryness; but the turning, by the admission of air, gave more heat than we wanted, and this, too, after beating down, has received a slight surfacing of soil, as we have no wish to have our shallow beds exhausted by decomposition before the spawn runs in them.

Mushroom Spawn.—Examined the heap of spawn-bricks alluded to lately, and added some more covering to increase the heat, which ranged from 60° to 70°, when it would have been better at from 80° to 85°. Making spawn should be understood; but when wanted in small quantities it is more economical to purchase from a respectable tradesman.

Dug and trenched ground as it became at liberty.

FRUIT GARDEN.

Much the same as in previous weeks, having a good deal of work in cleaning glass stages, washing pots before housing them, &c.

ORNAMENTAL DEPARTMENT.

Carriage Roads.—Cleaned carriage roads, which, from seeds scattered from the pastures, were becoming green at the sides, though cleaned not more than five or six weeks ago. The centre wanted nothing more than a hard sweep to remove droppings, and thus make all fresh and clean; but even though the day was dry and sunny, as on Tuesday, hoeing and raking the felt of green young grass at the sides would have been tedious, and but of temporary use, as most of the grass in wet weather would have taken root again. As from the late wet weather the sides of these roads for 15 inches, as far as the grass and weeds extended, was rather soft, we turned it over with the spade in shallow spits about 1½ or 2 inches in depth, which at once turned the green felt out of sight, and with the assistance of the back of a rake left a brown sandy surface in its place, and there was nothing to take away. When a piece of ground, especially in autumn, becomes green with small weeds, this shallow turning-over is one of the best means for giving a clean fresh surface. The idea we are apt to form of a place is considerably modified by the condition of the approaches, and whatever its width, an effort should be made to have the outline of gravel clear and distinct throughout.

Lawns.—Mowing and machining as opportunity offered, as if the grass is short and smooth before much frost, it will look greener and nicer all the winter through.

Now is a good time for pruning and transplanting evergreens: making cuttings of Laurels, &c., and laying fresh turf. What is laid now in fine days will have little chance of giving rheumatism to the layers, and it will be so established during winter that it will need no watering next summer. Few people can

think, in these days, of watering turf; and even when water is plentiful, where lawns will not keep green without watering it is rarely that any watering short of thorough flooding will be of much avail.

The mild weather that has succeeded the rains makes it desirable to give all the air possible, back and front, to half-hardy plants, to prevent their damping; and a rotting leaf or leaf-stalk is more to be guarded against than cold. Most plants likely to be injured have been brought under shelter, and even Chrysanthemums that have not received a place in the plant-houses have been put under protection. The few fine days have given fresh glory to Salvias, Ageratums, Calceolarias, and even Heliotropes out of doors, which in some beds are still fresh, when all the Dahlias have been less or more blackened. These will be as well in the ground a little longer, but a little earth should be placed round the stems to prevent the eye of the tuber being injured.

What we did lately for the conservatory we have also been busily carrying out in the plant-stove—namely, washing the glass roof, woodwork, walls, &c., and cutting in very much the climbers, which, though very beautiful in summer, would be too heavy and dark for winter. One of the emptied houses held a lot of plants whilst the cleaning was going on; and some plants can be fresh stuffed in baskets, have the drainage looked to, and be fresh surfaced, if not fresh potted, before they are replaced.

Stoves and even conservatories need a little fire heat in damp days, to dispel the damp air, but unless for forcing, or for tropical plants in bloom, the less excitement given by heat now the better. Even in watering, as little should be spilt as possible, that the air of the place may be somewhat dry, rather than moist, as until we have a dry parching frost, it is likely that the air of our houses will be moist rather than dry. Of course, where much heat is used, the moisture in the air should be proportioned to the temperature; but in all plant-houses where little or no fire heat is used, damp air will be more troublesome than dry air. Such plants as Calceolarias and Cinerarias, which delight in moisture, if set in the same house with things that like a drier air, may be considerably helped by setting them on damp moss, or in saucers with not more than one-eighth of an inch of water in the bottom of the saucer.

Much time has also been taken up in removing Cinerarias and Primulas not wanted for the conservatory from earth pits into brick pits, where a little heat can be given in severe weather, and in moving boxes of struck bedding Pelargoniums from earth-pits into the Peach-house, and strong-potted established plants of the Scarlet kinds into an empty cleaned vinery, where the greater amount of air and light they will receive will cause them to bloom better than in a pit; this being one of the advantages that a roomy house has over a pit in winter, the air and light being all round, beneath, as well as above the plants, instead of being chiefly above them as in a pit.

Lots of bedding Pelargoniums, &c., from the flower-beds have also been packed much in the way detailed in the Journal for October 30th. Those in small pots cut pretty well in, and deprived of their foliage, and rather firmly packed in dampish soil, and plunged where there would be a little heat, will receive no water for eight or ten days. The roots will begin to work afresh all the sooner when not surrounded with wet soil.—R. F.

COVENT GARDEN MARKET.—NOVEMBER 10.

Our general supplies continue heavy, and alterations are very trifling. Pears comprise Duchesse d'Angoulême, Glou Morceau, Beurré Diel, Châumont. Apples as before.

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes..... each	0	to 4	Leeks..... bunch	0	8 to 0
Asparagus..... bundle	0	0	Lettuce..... per score	1	0 to 1
Beans, Broad..... bushel	0	0	Mushrooms..... pottle	1	6 to 2
Scarlet Run..... sieve	2	0	Must.& Cress, punnet	0	2 to 0
Beet, Red..... doz.	2	0	Onions..... doz. bunches	4	0 to 6
Broccoli..... bundle	1	0	Parsley..... doz. bunches	2	0 to 3
Brus. Sprouts ½ sieve	2	0	Parsnips..... doz.	0	9 to 1
Cabbage..... doz.	1	0	Peas..... per quart	0	0 to 0
Capicums..... 100	2	0	Potatoes..... bushel	2	0 to 4
Carrots..... bunch	0	4 to 6	Kidney..... doz.	0	8 to 4
Caulliflower..... doz.	2	0	Radishes doz. bunches	0	6 to 1
Celery..... bundle	1	0 to 2	Rhubarb..... bundle	0	0 to 0
Cucumbers..... each	0	4 to 1	Savoy..... doz.	0	0 to 0
pickling..... doz.	0	0 to 0	Sea-kale..... basket	8	0 to 4
Endive..... doz.	2	0 to 0	Shallots..... lb.	0	8 to 0
Fennel..... bunch	0	8 to 0	Spinach..... bushel	2	0 to 8
Garlic..... lb.	1	0 to 0	Tomatoes..... per doz.	1	0 to 2
Herbs..... bunch	0	8 to 0	Turnips..... bunch	0	4 to 0
Horseradish..... bundle	2	6 to 4	Vegetable Marrows ds.	0	9 to 1

FRUIT.

	s. d.	s. d.		s. d.	s. d.	
Apples ½ sieve	2	0 to 8	0	Melons..... each	2 6 to 5	0
Apricots..... doz.	0	0	0	Neotaries..... doz.	0	0
Cherries..... lb.	0	0	0	Oranges..... 100	8	0 12
Chestnuts..... bush	12	0 14	0	Peaches..... doz.	6	0 12
Currants..... ½ sieve	0	0	0	Pears (dessert)..... doz.	1	0 2
Black..... doz.	0	0	0	kitchen..... doz.	1	0 2
Figs..... doz.	0	0	0	Pine Apples..... lb.	8	0 6
Filberts..... lb.	0	6	1	Plums..... ½ sieve	10	0
Cobs..... 100 lbs.	0	6	1	Quinces..... ½ sieve	5	0
Gooseberries..... quart	0	0	0	Raspberries..... lb.	0	0
Grapes, Hothouse..... lb.	2	0	6	Strawberries..... lb.	0	0
Lemons..... 100	8	0 14	0	Walnuts..... bush.	10	0 20

TRADE CATALOGUES RECEIVED.

Peter Lawson & Son, 1, George IV. Bridge, Edinburgh; 28, King Street, Cheapside; and 15, Lawrence Lane, London, E.C.—*Catalogue of Forest Trees and Shrubs.*

F. & A. Dickson & Sons, 106, Eastgate Street, and Upton Nurseries, Chester.—*Catalogue of Roses.*

George Edwards, 1, King Street, Castlegate, York.—*Catalogue of Roses, Fruit Trees, Carnations, and Picotees.*

TO CORRESPONDENTS.

.. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

QUEEN ANNE'S POCKET MELON.—Mr. T. Record, Lillesden Gardens, Hawkhurst, Kent, obligingly writes to us as follows: "I have about three hundred seeds to spare. If you like to give notice to that effect in your Journal I will send seeds to those who will enclose a stamped directed envelope while they last."—"In reply to 'E. T. W.,' the fruit of Queen Anne's Pocket Melon will not hang long after the fruit is dead ripe—a fact which is well known to all cultivators of the Melon; but supposing a gardener has, say, a dozen plants of this Melon in pots, he can either 'push on' or retard, according to the requirements of the establishment. The principal thing to aim at in this case is to have plants ready, on which the fruit has not arrived at such a state of maturity as 'E. T. W.' describes. If, perchance, a fruit should fall off, it would be no disgrace to either the plant or the table if laid on the top of the pot; on the contrary, it would only give a natural, if not a graceful effect. Mr. Hawkins says, at page 354, that he has grown this Melon in 12-inch pots, with from twelve to twenty fruit on each plant; a fruit or two in that case would not be missed. I have grown it in pots myself, and hope never to be without it in season.—J. PERKINS." (Mrs. Hendricks).—The seeds we have sent to applicants may be sown for next year's crop.

SEEDLING PELARGONIUM (J. Pearson).—The seedling Pelargonium Chiswell Beauty is first-rate, its intense shade of cerise distinct from any other kind we know. If it is a free-flowering variety, we should say it is one of the best Hybrid Nosegays we have seen. It is darker than Amy Hogg, Dr. Hogg, and Rebecca, and will prove a very effective shade of colour for bedding purposes.

SEEDLING TORENIA (Josiah Progen).—Your seedling Torenia appears to be distinct from T. asiatica; but we should like to see a plant before any opinion were given. The white marking makes the flower very striking. To form a correct opinion, we should have flowers both of the seedling and of T. asiatica to compare with each other, which at this season is not easy to do. Perhaps next year you can send us a specimen plant.

MINERAL OIL AS FUEL (F. F.).—We cannot form an opinion upon coals soaked in the oil being used as fuel. The subject requires to be examined experimentally, and not to be adopted rashly. The oil is imported largely from America, but we know of no retailers of it.

MICROSCOPE (E. T. W.).—Your question is too indefinite. Before deciding which is "the best microscope for a gardener," we must first know what he intends to do with it. What is called "The Society of Arts Microscope" would be quite sufficient for ordinary purposes, and its price is three guineas. "The Student's Microscope," by Stanley, Great Turnstile, Holborn, may likewise be had at the same price. Read Lardner's Treatises, "The Microscope Explained," "The Eye," and "Optical Images," published by Walton and Maberly, Paternoster Row. Also "Half Hours with the Microscope," by Dr. Lankester, 2s. 6d. Your instrument will be of no use without the condensing lens, price from 6s. to 12s. more. This applies to all microscopes. If deep researches into physiology are intended, then one of Ross's binocular microscopes at thirty guineas would be required. Common useful microscopes may be had for a guinea. Possibly a Stanhope or Coddington lens would suit your purpose. There is no work devoted to stove plants.

FRUITERS (A Constant Subscriber).—Write to Messrs. Webber, Centre Arcade, Covent Garden Market.

OUR OCTOBER PART.—We have received six stamps for this, but no direction! If thirteen more stamps be sent, and the sender's name and address with them, the part will be sent by post prepaid.

VINES (W. M.).—You want to grow Grapes for profit in a house heated by a fire at as small a cost as possible. There is no variety you can grow that "will produce finer bunches and berries, and not be inferior in flavour" to Muscat of Alexandria and the Frankenthal. Serbelle Frontignan, and Prolific Sweetwater are very well in a large collection, but not fit for your purpose. Champion Hamburg is synonymous with Mill Hill, a splendid Grape, which you may advantageously adopt; but Black Champion is an entirely different and distinct variety also well worth growing. Gros Colman is not worth your notice, and if you want a larger bunch than White Frontignan with the Frontignan flavour you cannot do better than get Graham's Muscat Muscadine. If you have room add Black Muscat of Alexandria, or if you have not, make it.

PROPAGATING THE CHRYSANTHEMUM (E. M. R.).—The same post which brought us your inquiry also brought us the following:—"Cuttings should be taken from the most choice of the old plants in the first or second week in February, using a light sandy loam with a thin layer of silver sand on the top. The pans should be placed on a gentle bottom heat. When the cuttings have struck, and are sufficiently rooted, which can be easily ascertained by turning the plants out, they should at once be repotted into small 60's, and set near the glass on the greenhouse shelves, or, better still, plunge them amongst ashes in a cold frame, taking care to protect them from frost and damp. As Chrysanthemums are very gross feeders, they require a very rich compost, in order to grow to perfection and flower well. Half loam and a little decayed dung, mixed with a portion of peat, will form a compost in which they will do very well. Care should be taken to shift them into larger pots as soon as they fill their pots with roots. In order that the plants may be bushy, dwarf, and compact, they should be stopped at every potting. The last shift may be given about the middle of June. They should have every attention paid them in watering, and a little liquid manure helps them to swell their flower-buds. They ought to be taken out of the frames at the end of April, and set on a bed of ashes in an open situation till their blooming period is at hand, but on the first approach of frost they should be taken into the greenhouse. In order to bloom the plants well it is important to thin out the branches so as to leave them as much space as possible, and then to neatly stake and tie them up at equal distances. When the bloom is over cut the flowering shoots down and remove the plants to a cold frame, giving them just enough of water to keep them from flagging. As they are nearly hardy, a slight covering with a mat in severe frost is all they require, but afford them plenty of air on fine days. The old plants are very useful for the flower-borders. — A YOUNG GARDENER."

VARIOUS (S.).—To turn out Azaleas to frost to free them of thrips is a novel proceeding. The house should be filled with tobacco smoke on two consecutive nights, and afterwards whenever the insect is seen. We cannot give you the treatment of *Bougainvillea spectabilis*, *Stephanotis*, *Bigonia radicans*, *Combretum purpureum*, *Allamandas*, and *Clerodendrons*, as that would occupy nearly the whole of a Number. The plunging of the *Clerodendron* in bottom heat would not cause the buds to perish unless the heat were violent. The *Ipomoea Horsfallii* should be cut-in during winter. *Hoya variegata* will grow, only it must have heat and moisture. We are always glad to answer any questions, but we cannot reply to ten at once.

PLANTS FOR BASKETS IN CONSERVATORY (Idem).—*Saxifraga sarmentosa*, *S. japonica*, *Nierembergia intermedia*, *Mikania scandens*, *Sedum Sieboldi*, *Convolvulus mauritanicus*, *Disandra prostrata*, and *Tradescantia zebrina splendens*.

VENTILATING (A Bexley Reader).—We do not know exactly what you want. Your two-foot openings, one on each side at the ridge, may either slide or be pivot-hung so as to open by a cord. You will want two cords if hung in the middle, and only one if you hang them half their length from one end, as the weight will always shut them. We do not think these two openings will be enough in a house 40 feet by 20 feet, but they would do if the ends at the apex opened, and if in a span-roof there were ventilation at front on each side.

LILY OF THE VALLEY IN POTTS (Inquirer, Nenagh).—The best plan for securing good pots and boxes of Lily of the Valley from the plants now in borders is to take them up, separate them, and only pot those with firm prominent buds.

BULBS BLOOMING SIMULTANEOUSLY (Idem).—There is no way for blooming simultaneously Hyacinths, Tulips, and Crocus in a basket, but the foliage of the Crocus will make a good edging for the others. You may do something to effect your purpose, perhaps, by keeping the basket of Tulips and Hyacinths in-doors, and to leave the space for the Crocuses and keep the roots laid out singly in the coolest and driest place you can find; but if the bulbs push much before you plant them, the bloom will be deteriorated and the bulbs weakened.

WATERPROOF CLOTH (E. D. S.).—Pale or old linseed oil three pints, sugar of lead (acetate of lead) 1 oz., and white resin 4 ozs. Grind the acetate with a little of the oil, then add the resin and the remainder of the oil. Place in an iron pot and incorporate thoroughly over a gentle fire, applying the liquid with a large brush to the material, stretched loosely by means of tacks upon a frame. In twenty-four hours it will be ready for another coat, or it may be fastened on tightly to remain.

FRAXINELLA FROM SEED (Idem).—Your best plan will be to sow the seed next April, in an open and sunny situation, in good, rich, light soil, making the surface fine, then scatter the seed thinly, and cover with fine, light soil. Keep moist and free from weeds, and when the plants have made two or three leaves, in addition to the seed leaves, prick them off in good soil in rows 8 inches apart, and keep shaded and well watered until established, planting them out in autumn in the places where they are to remain.

ORCHIDS LIBANI SEEDLINGS (R. D. K.).—The seedlings which you have in a frame are probably turning yellow from an insufficiency of air. You will do well to prick them out in an open situation in the open ground, about 3 inches apart.

ANGLES OF GREENHOUSE AND HOTHOUSE ROOFS (Idem).—The best angle of "pitch" you can have for both is that of 45°.

MAN FOR GARDEN OF TWO ACRES (Idem).—The garden being in a neglected state, it is impossible to tell how many men will be required to bring it into order, as that will depend on the alterations which you contemplate making; but when it is in order, a man and a strong youth, in addition to a working gardener, will be required to keep it in order.

PRIVET AND THORN HEDGE CUTTING (M. N.).—From now until March is a good time to clip this sort of hedge, and you may do so very closely. We would advise its being cut well in at once. The price of the "Cottage Gardener's Dictionary" is 5s.

VARIEGATED DAISY (Frank Hill).—When the plant has done blooming take it up and divide the roots, planting the offsets about 3 inches apart in a shady border, and keep them well supplied with water, and slightly shade until established. This is our practice, and we find it answers well. It is impatient of hot weather and dryness.

HEATING A GREENHOUSE (Dr. Strong).—You do not say whether your house of 28 feet by 10½ feet is a lean-to or a span-roof. In either case the little difficulty of heating proceeds from your making 9 feet of the 28 into a forcing-house, and some 18 or 19 into a greenhouse. Now this could be done by a fire heating the forcing-place separately, and then the heat, by means of a moveable damper, could pass into the other house as wanted. It would, however, be best heated by a small conical boiler, from which you might have what top heat and bottom heat you liked in the forcing-house, and merely enough to keep the whole temperate in the greenhouse. Were your house of 28 feet of one uniform temperature, or nearly so, and only for greenhouse purposes, then supposing you had a paved pathway to walk on, we would make that pathway the top of the fire, and you would have all the comfort of heating without any heating medium being seen in the house. Now with respect to the questions:—1st, Hot water we consider better than fires for general purposes, and always where several places have to be heated from the same fire or furnace, and there is never any chance of escape of smoke or gases in the houses; but for all small houses of from 30 to 40 or 50 feet in length, in which a mere temperate heat—say from 40° to 45° in winter, is required, then we consider such a fire as that referred to the most economical as regards first expense, and for after-expense as respects fuel, &c.; and if the furnace is of a good size, it would be rarely that the fires would want mending after the gardener went home in the evening. It is rarely that you can have all advantages from any one mode. 2nd, From three to four-inch pipes are best. After much experience we do not like to have them less than 3 inches, as the friction of the sides impedes circulation, and if of less diameter they cool quickly when the heat in the boiler becomes low. We do not like them larger than 4 inches in diameter, because they are longer in heating. Unless where the fire is constantly kept in, we do not like them less than 4 inches for forcing-houses, so that they may retain a considerable amount of heat. When only occasional heating, and that to tell quickly, is wanted, three-inch piping we consider best. When a constant heat is required and a constant fire, it matters less which of these sizes is used so that there be plenty of piping. 3rd, The pipes will always prove most efficient when exposed above the floor. For all temporary purposes much heat is lost in the first place when the pipes are sunk in a trench below gratings in pathways. 4th, Ordinary three-quarter-inch gas-pipes, even three or four rows of them, would not be sufficient under the common mode of heating from a boiler under common pressure. Under Perkins's system, with very strong pipes nicely screwed and with a high pressure, these pipes would give enough of heat. The difference would be, that then in these pipes the heat would often be far above boiling point, whilst under the common system it would be better if the heat were not higher than 160° or 180°. For several reasons the latter heat in the water is to be preferred. 5th, Gas would be very expensive to heat a forcing-house. To keep frost out of a house 28 feet long we can fancy many cases where, merely for heating a small boiler, or for the heat circulating from a strong burner in such three-quarter-inch pipes as referred to, it would be on the whole the least troublesome.

BOILERS (F. F.).—We object to intricacy in boilers, as we do the intricate and complicated in anything else. All that is excellent is distinguished for simplicity. The twistings and turnings in the proposed boilers are sufficient to condemn them, as they would be difficult to make and easily put out of order. We join you heartily in the commendation you give to the saddle boiler. We do not go so far with you as to the waste of fuel in conical boilers, but of course this waste will take place in all boilers where the damper is not attended to. There may be something worthy of your condemnation in the small water way between the sides of boilers, but the object no doubt is rapid circulation. We have a clear recollection of your proposed plan of a gas-boiler to be heated by some tens of copper tubes for the gas passing through it, and regret that you have not yet been able satisfactorily to test its superiority, but when you realise your expectations of doing so we shall be glad to hear the results.

CONSTRUCTING A PROPAGATING-HOUSE (A. Newbery).—A very good propagating-house, and with due regard to economy where much artificial heat was wanted, may be thus constructed:—Length, the size wanted; span roof; width, between 9 and 10 feet; height of side walls, 2½ feet; height at ridge, from 6½ to 7 feet; ventilation in the side walls by leaving an opening of 4½ by 2½ inches, or the size of a brick, at every 3 feet, place to be filled with a moveable wooden one; ventilation at apex by having a few squares to open; if the house is not more than 20 feet long, an opening below the ridge at each end would be sufficient. Roof all fixed; sashes, about 2½ inches deep, and no rafters, and from 15 inches apart. Inside arrangement: path in the centre from 2½ to 3 feet in width, and a bed on each side—say 20 inches from the ground level, with pipes below each bed, in chamber or otherwise, and pipes above the bed for top heat. To have such a house moveable of wood, the sides may be wood in pieces, tarred or asphalted, or both, the wood resting on cross planks; the roof in sashes, moveable; the boiler one of the many that may be used without setting in brickwork, and which may stand in a shut-off corner of the house, so as to obtain the heat from it when desirable without any dust or smoke when lighting or adding fuel. An iron house may be made of pillars at the sides, with pedestals, and the sash-bars of iron, to be glazed on Beard's system, by which the glass can be taken out and unscrewed and taken down in a short time. It is always best to make arrangements with the landlord before building such places. Of course nurserymen and market gardeners are quite safe, and can take down and remove all they have put up. No other tenant can do so, according to law, if the glass houses have their foundations in the ground, or if attached to another building. We know of a case where a large lean-to house has been put up at a great expense against the lofty end of a dwelling-house; but the tenant never thought of what he knows now—that he cannot remove it without the consent of his landlord. There should have been a written agreement before the house was put up.

VINES, &c., IN A LIGHT ROOM (*An Amateur Just Feeling His Way*).—A Black Hamburg or a White Muscadine Vine, in a good-sized box, will do in your loft against the glass sash opening of 9 feet by 4½; but of course in summer the shade from the Vine would pretty well prevent anything else growing well beneath it. In such a lighted loft, 14 feet by 9 feet, you can easily keep many bedding plants in winter, more especially as you have a hot-water cistern which would heat the place to 50°; it had better rarely exceed from 40° to 45° in cold weather in winter; but you must not think of laying Calceolarias down until they seem exhausted, for if so they will never do good afterwards. Everything growing you must shift and bring nearer to your sash-light in turns. Scarlet Pelargoniums in a state of rest may go into more shady places. Refer to "Doings of the Last Week" for October 23rd for minute directions. As you have this hot-water cistern there we would be tempted to advise you to take off the slates from the best side and cover with glass; and if there are rafters there about 18 inches apart, the glass would be nearly the whole expense. You may do much with the place as it is.

FLOWER GARDEN (F. F.).—The chief fault with your plan is that the vase in the centre, unless lofty, and the four small beds (3), will be overpowered by the other twelve larger beds. There is also great sameness in the clumps, but if it pleases the planter that is the chief point, and we have no doubt that if well planted it will look well. Of your four large beds in the centre, we would prefer a stripe with the centre as you propose, and edging likewise. The Golden Chain would make a good edging for the scarlet, and contrast with the low edgings of Purple King Verbena. We would cross these beds as you propose, and, as there is a pair of outside beds for each of these centre ones, these should also contrast, and then the plan of planting will be both simple and effective.

ASH GRAFTING (H. S.).—Take a last-year's shoot and graft it next spring upon the tree you recently planted on your lawn. You will find directions as to the manner of performing the operation in the "Science and Practice of Gardening," to be had free per post from our office for 3s. 4d. in postage stamps. It should be grafted a little before the flow of the sap.

PROPAGATING APPLE TREES (Idem).—The slips of the old trees are of no use. You may sow the seeds or pipe of the Apples and the Crab in the open ground, and in three or four years you will have stocks for grafting. The moderately strong shoots of the kinds you wish are the only shoots suitable for grafting, which should be performed when the sap rises in spring.

STANDARD ROSES (Idem).—You cannot raise standard Roses by taking slips off the standards and putting them in the ground or in pots. You must obtain Briar stocks of the required height and bud them next year.

FLOOR OF PIT (F. Jenkins).—We presume that by "quarries" as used in malt-houses you mean the square perforated tiles used as the floor of the malt-kiln; if so, we have no objection whatever to your forming the

floor of your pits of such tiles, raised sufficiently above the ground level by bricks beneath them, so as to leave a space beneath them for air and for water to pass without letting worms, &c., up. There would only be the extra expense. A similar object as respects pot plants is gained by moveable trellises, or, rather, stages; but these would be inferior to yours when earth is to be put in for the plants. When this earth is used over the perforated bottom we do not perceive why damp is to be thoroughly prevented, or how extra air will play among the plants, as all the holes beneath will be covered.

HEATING A PIT FROM A KITCHEN FIRE (Subscriber).—We think you had better read what is said at page 282, and let us know the relative heights of your fire in the back kitchen and the ground that would be the floor of your pit. If right as to level, you could take a flue from that fireplace, or, which would be better, pipes from a boiler; and as we presume you have the wall of the house there, why not make that wall the back wall of a little glass house, and you would only have the front and end walls to build instead of the four walls of a pit? Your frame would also be useful elsewhere, and you could have a fixed roof for your little house—that is, if not a tenant. We throw out this hint because a little place you can go into, will yield more pleasure than one you can merely look into.

BEDDING PLANT (An Old Subscriber).—In the place of Calceolaria aurea we would recommend *Tagetes signata* pumila.

EXPOSING VINES TO FROST (F. H.).—There is nothing gained by exposing Vines to frost, beyond the destruction of some kinds of insects, and no ordinary frost will destroy their eggs. The Vines would be much better of having the glass over them in winter, the temperature from fire heat not exceeding 40°. The latter part of your letter is unintelligible.

CAMELLIA BUDS FALLING (An Old Subscriber).—We cannot see anything in your treatment that would account for the buds dropping. Its most general cause is the roots being inert, or their not supplying sap for the maintenance of the buds. The water from the lead cistern will do the plants no good.

VINE BORDER (Jersey Subscriber).—Do not increase the depth of the border. If it is drained, the best plan would be directly to begin at the front, and raise the roots of the Vines to nearer the surface. Obtain fresh material, and spread the roots out within 4 inches of the surface, and use summer mulchings afterwards. If any of the Vines seemed bad at the roots we would plant fresh ones.

NAMES OF FRUITS (M. B.).—We do not know the Apple, and doubt very much as to it being "Jenny Sinclair." What we know under that name is a round-shaped Apple.

NAMES OF PLANTS (H. W. E., Usk).—The plant is *Isolepis gracilis*, not hardy. *Dactylis glomerata variegata* is hardy. (W. B.).—The pod is very likely to be from a plant of *Ollanthus puniceus*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending November 10th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 4	29.939	29.904	56	40	50	51	W.	.02	Fine; partially overcast; cloudy; overcast.
Mon. . . 5	29.908	29.848	60	48	51	51	S.W.	.00	Fine; cloudy; overcast; mild and fine at night.
Tues. . . 6	30.132	29.992	60	40	50	51	W.	.00	Fine; very fine throughout.
Wed. . . 7	30.089	29.964	57	47	50	51	S.W.	.01	Overcast; brisk wind; fine; rather boisterous.
Thurs. . 8	29.908	29.667	60	32	50	51	S.W.	.30	Flying clouds; boisterous; heavy rain at night.
Fri. . . 9	29.978	29.776	51	34	51	52	W.	.00	Clear; quite cloudless; exceedingly fine throughout.
Sat. . . 10	30.187	30.120	55	29	50	51	S. S. E.	.81	Hazy; dense fog; very dense in afternoon; rain.
Mean	30.097	29.898	57.00	37.57	50.29	51.14	..	0.64	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

HAMBURGHS NON-ORNAMENTAL!

THERE arrived some years since, in a certain neighbourhood a gentleman who happened very soon to be called upon to make a speech. He rose and spoke exceedingly well. Those present whispered, "How well Fluent speaks!" for such shall be his name in these pages. Soon afterwards Mr. Fluent was asked to speak again, and a second time it was a success. A third time, and those among the audience who had heard him before said to new comers, "Now you will have a treat!" People nodded pleasantly across the room at each other, as much as to say, "Now for the speech of the evening." There was a dead pause of expectation when Mr. Fluent rose; but, oh, the horrors! he struck all round, knocked (figuratively) the chairman out of the chair, attacked the secretary, threw doubts upon the treasurer, and ran full tilt in wrathful eloquence against the committee. Never was such a scene, such a hubbub, such raising of eyes, blank looks, and mutterings of "dear! dear! dear!" The fact came out that Mr. Fluent had proved to be too fluent.

Now, something similar has happened to "NEWMARKET." No one welcomes more heartily than myself a new writer to "our Journal," if a good one, whether the new writer's name be "MAUD" or "NEWMARKET." The latter had written so well on Game fowls, that I had begun to look out with pleasant

expectation for his signature, when, lo! his article entitled "Ornamental and Non-Ornamental Poultry" came to hand. I was sorry, I uttered many a "dear! dear! dear!" I foresaw the result, how "Y. B. A. Z.," and, perhaps, "A. K. C.," and half the other letters of the alphabet, would be ready to do battle for their attacked favourites. Pens sharply pointed would be drawn. I heard by anticipation the watchwords, "Dorkings and old England!" "Spanish and our aristocracy!" "Cochins and eggs for ever!" "Turkeys and good cheer!" nay, it might be even, "Malays and run a-muck."

Well, well, mistakes will happen now and then; be thankful if it be only now and then. Please not to cut your pens very sharp, but rather nib them broad, for broad views are best. Every one in praising his own special hobby is apt to be hard upon those of other people. "What can Mrs. So-and-so see in those noisy Canaries?" While Mrs. So-and-so says in turn, "Poor old Mr. Fogie! how I pity him poring over his dusty parchments!" So of "NEWMARKET," in his admiration of Game fowls he looks with an unfair eye upon other varieties. Now, every fowl that walks has its beauties, and the better bred the more numerous they are. I admire Game exceedingly, they have the beauty of form and colour; but "NEWMARKET" is unfair (he must not mind my saying so) to Hamburgs, when he places them among "non-ornamental poultry." Let a jury of painters be empanelled. Hamburgs have specially the beauty of feather and colour; in the Pencilled how elegant the feather! in the Spangled how handsome! All these varieties are extremely beautiful, nearly equal to Gold and Silver

Pheasants. Only last evening I brought in a Silver-spangled hen lying on my hand, I spread out both her wings, she is very tame (I tame all fowls and Pigeons with hempseed). Every one admired her—on each feather a dot of black jet, then the green hue on her back. Consider, too, the perfect contrast of the purest white and cleanest black, then the dark eye, and neat double comb. Then there is this advantage in Hamburgs, the hens are as handsome as the cocks, and hens are always more numerous, every one, of course, keeping six or seven hens to one cock. Let no one judge of Hamburgs by what he sees in towns. They are birds especially for the country. Then I hoped to speak presently from experience of their laying, but, alas! misfortune has come upon the fine brood I reared last spring, in which I took so much delight, and of which I wrote. I tended them myself, counted the long and lovely row every night; I locked them up early, for foxes abound; when, lo! one evening only three were at roost, the three less excellent, two cockerels and but one pullet. Where were the rest? The truth came out, that while we were dining three setters which had escaped from long confinement in the town near by, had entered the yard, chased, killed, and, as if in cruel mockery, partly buried my poor Hamburgs. There was sorrow upon this sad discovery throughout Hilltop Rectory—even tears were shed, and my poultry heart was for a time nearly broken; but I mean to breed more next year from the pair I have left, for I am in no way tired of Hamburgs.

To return to "NEWMARKET," he must at the next show he attends stand one half-hour before the pens of Hamburgs, and study their beauties with attention and without prejudice. This is the penance the Chaplain enjoins for his sin in placing Hamburgs among non-ornamental poultry; besides, it will cure him.—WILTSHIRE RECTOR.

THE DIFFERENT VARIETIES OF GAME FOWLS.

(Continued from page 857.)

5.—BLACKS.

THESE are of two or three colours in the cocks—1st, The entirely Black cocks; 2nd, The Brassy-winged cocks; and 3rd, The Furness Black cocks with the yellow backs and wings. The latter are now quite rare. The hens are generally entirely black in all three sorts.

Blacks have bluish-black, bronzy-black, and dark olive-green, or dark willow legs. They have generally black eyes, but some of the inferior Blacks have the yellow or daw eyes.

The entirely black birds are the pure breed of Blacks, the Brassy-winged and Furness breeds being the result of crossing. The bluish-black legged are the purest breed, but the bronzy-black-legged, Brassy-winged, and Furness breeds are the "gamest." These are probably crossed with the Dark Birchens mostly. Blacks have taken three or four silver cups, and are as prolific as the generality of the Game fowls.

6.—DARK BIRCHENS.

The Dark Birchens are nearest allied to the Dark Greys in appearance, and the best of them are bred from Dark Grey cocks with the yellow-necked Brown Red hens. They are also bred from Duckwing and Yellow Birchen cocks with Brown Red hens. They are always inferior to Dark Greys.

Dark Birchen cocks have the straw-coloured yellow hackle, as their name denotes, and are dark underneath the feather, or "cut out" dark; the hackle of the hens is also yellower than that of the Dark Grey hens. Eyes and legs should be blackish, though some of the worst have dark willow or olive-green legs.

7.—DARK GREYS.

Dark Greys are bred from the hardest and best Brown Reds, which always incline to throw the Dark Grey hens, but not the cocks, which are produced by breeding in-and-in with the Dark Grey hens. Eyes and legs always blackish, hackle always dark grey. These always "cut out" very dark, the darkest of all the sorts. The dark grey-breasted birds are the best and hardest birds. They are sometimes called Dark Silvers, and are good birds though bad layers in comparison with the other sorts of Game. Hackle always grey and thickly striped with dark stripes. Chickens when young blackish, with lightish bellies; while the Brown Red young chickens are yellower in breast and belly, as are the Dark Birchen young chickens when quite young.

8.—RED-BREASTED GINGER REDS.

These are not a common bird. There are red-eyed and yellow or daw-eyed, the red-eyed being either white or yellow-

legged, and the daw-eyed always yellow-legged. The hens are of a light ginger partridge colour with ginger breasts of a yellowish colour, and not fawn breasts. They are quite distinct from the Cinnamon breeds of the Black-breasted Reds, as their hens have a different coloured breast, and throw Red Ginger-breasted cocks always. The hens are grained and pencilled with darker markings, as the darker fawn-breasted common Partridge hens always are.

9.—YELLOW BIRCHENS.

Yellow Birchens are also now a rare colour, and always yellow-legged and yellow or daw-eyed, and yellow is the prevailing colour throughout. Breasts and part of the plumage always inclining to a yellowish-creamy colour with darker markings. The hens lay a yellowish egg.

10.—MEALY GREYS.

Mealy Greys are not common, and have the silver or mealy-grey breasts in both cocks and hens, without any yellow. They were bred from the Whites, bred into Mealy Whites, and then crossed again with the Blacks, the produce most inclining to the Dark Mealy White being selected to form the breed. The grey colour prevails more in the hen than in the cock, as in most Grey breeds, they are sometimes from Dark Greys when very good.

11.—WHITES.

The true Whites are always white-legged with red eyes. Yellow and willow-legged Whites always incline to a yellow tinge. Willow-legged have red eyes, yellow-legged yellow eyes in general, though sometimes the bright red eye if good birds. There are, probably, blue-legged Whites also, as in Piles, though I have never seen them.

Whites were originally thrown by the Black-breasted Reds, though only occasionally; and some say that these, breeding back to the red colour, produced the Pile breed; but the Black-breasted Reds will throw Piles as well as Whites.

12.—RED DUNS.

Red Duns are of three colours—1st, The white-legged with dark red eyes. 2nd, The blue-legged, also with dark red eyes. 3rd, The yellow-legged, with yellow or daw eyes, the worst sort. Both of the first two sorts are good birds. The white-legged are very game. The yellow-legged are rather poor things, and are the most common, except in the northern districts, where the other two sorts prevail.

Red Dun hens are cinnamon-coloured with blue dun-breasts and tails. Cocks red, with breasts and tails the same in colour as in the hens. The yellow-legged sorts are not so red, but are a yellower bird, and are, therefore, called the Ginger Blues. Red Duns all lay well, but are not much bred or exhibited.

13.—BLUE DUNS.

These are not common, and were bred from the yellow-legged Red Duns or Ginger Blues, throwing first the Blue hens, and by breeding in-and-in, at last produced the Blue cocks, which are much less common than Blue hens. These lay well, but are the weakest of all the Game fowls, and will hardly stand steel at all.

Some breeders consider Greys to be original. I decidedly do not do so. Red Furnesses, Cuckoos, Spangles, and Polecats are mixtures.—NEWMARKET.

A NEW POULTRY SHOW IN THE SOUTH.

I AM anxious to call the attention of my brother poultry fanciers to an effort now being made to increase the number of southern poultry shows by starting one at Guildford. The town boasts many advantages for this purpose. It is distant from the metropolis only thirty miles, or under an hour in point of time. Six lines of rail converge at Guildford station, giving the town direct communication with London, Reigate, Brighton, Portsmouth, Southampton, and Reading. There is no poultry show of any note nearer than Shoreham or Basingstoke. The neighbourhood is populous, and the "classic ground" (to poultry fanciers) of Dorking is near at hand.

The Committee of the Guildford Agricultural Association resolved this year to add poultry to their other attractions, and published a prize list, giving to Surrey and Sussex fowls (Dorkings?) six prizes, to Game three, to Ducks three, to Hamburgs and Turkeys two each, and two extra prizes to cottagers; all these prizes to be limited to Surrey exhibitors who subscribe 5s. each to the Show. The schedule is certainly defective, arising, I believe, from the fact that no gentleman on the Committee (however willing that body was to get up a good

show), was proficient in the modern classification and management of a poultry show.

I have been pressing upon the Committee the necessity, if a good Show is to be held, of throwing open competition to all England, enlarging the prize list, obtaining the services of a first-rate judge, and promising good pens for exhibition. Unfortunately the schedule and rules were in print before an opportunity arose for making these representations; and while there is great hope next year of enlarging and improving the Show, the Committee have most courteously adopted at once several suggestions—notably that of obtaining a good judge. I have pleasure in adding that one of our best-known and ablest judges has most handsomely offered his services gratuitously.

Further, the Committee have accepted my offer to give a prize of one guinea, respectively, to the best pens of Cochins and Brahmas, neither of which varieties was mentioned in the schedule; these prizes to be open to all England, and with no fee or subscription required.

I hope by these means to induce some of my brother fanciers to send good specimens to Guildford, and thereby both encourage the Committee to have a first-rate Show another year, and also stimulate the love of poultry in the district. I may add that Mr. E. B. Baker, the Hon. Secretary, will give to intending exhibitors any information they may desire.

The Show is fixed for December the 11th.—JOHN PARES, *Postford, near Guildford.*

KEEPING POULTRY IN LONDON.

I KNOW there are some people who say this is impossible, but I have done so for two years and wish to state my experience. Having formerly lived in the country, and having there been a poultry fancier, when I came to London I naturally had the desire to keep my old friends—fowls. Now, I have a garden which is about 120 feet long and 40 broad, and at the bottom of it I have put up a fowl-house, a good-sized court, in which I keep half a dozen hens and a cock. They have for about five months of the year the run of the garden, but are shut up in the court during the remaining months. In looking over my accounts I find I have suffered no pecuniary loss by them, for taking the eggs at London prices I find I have gained 2s. 6d. I have found out that one breed does not thrive in London, and so have adopted a cross between Dorkings and barndoor fowls.

The following is the number of eggs laid by the six hens in the year:—

January	24	August	80
February	70	September	8
March	47	October	0
April	82	November	8
May	94	December	16
June	65		
July	84	Total	448

[We wish that our poultry-keeping readers would furnish us with similar tables of their yearly egg produce. It would be useful, and still more so if they would tell the number of chickens hatched and reared, in every instance specifying the variety of poultry. The table should be in this form:—

	DORKINGS.		
	Eggs.	Chickens hatched.	Chickens reared.
April	62	9	6
			No. of Hens.
			6]

INCUBATORS.

I AM glad to see the subject, "Whose is the best incubator?" noticed in your Journal (which needs no praise, as it is the best, I think, that could be sent out). Mr. Brindley has, with an Englishman's confidence of superiority in his own manufactures, volunteered to lend one of your correspondents an incubator of his make for trial. Now, I would propose that Mr. Schröder, and all the other inventors of incubators, should make the same offer to the same gentleman, and thus the public would have some criterion to go by in choosing these articles. I have a circular from one inventor, which states that he "has tried every similar description of apparatus yet invented, and scruples not to say that he has found every one wanting, or to have certain fatal objections," &c. Now, in fairness and openness of trade, might not all the inventors make the same offer to the same correspondent as Mr. Brindley has done, or to some other well-known fanciers? and the ignoramus, such as myself, would be the wiser if the results of the experiments were inserted in your Journal. I give each

inventor credit for truly believing that his own productions surpass all others; but if there are any faults, would they not be able by this test to see and rectify them, which ought to lead to much improvement, if not to perfection.—EDGEMORTH.

IPSWICH POULTRY AND PIGEON SHOW.

THE first Poultry Show ever held at Ipswich took place on Thursday and Friday last, the Corn Exchange offering the most ample accommodation to an entry of 537 pens. So large an entry at a first show is very rare, and we are happy to state that most of the principal breeders in the kingdom competed. The only drawback which occurred arose from the wilful dilatoriness of the party from whom the pens were hired. Although offered by the Committee the gratuitous assistance of a number of local carpenters, he sternly refused such help, worked on only as he himself thought fit as to time, and the result was that instead of the Arbitrators being enabled, as proposed, to commence the first thing in the morning, it was within a few minutes of 3 P.M. before even all the pens were erected. The Committee have wisely made provision against the recurrence of such an evil in future years, as they purpose not only having their own pens, but also to arrange for the erection of these under their own superintendence. When at length completed, the Show was certainly a very fine one. Scarcely any class could be named in which the competition was not good, and to add to the general interest, a large proportion of the birds were chickens of the present year, and were now exhibited for the first time. Independently of a liberal amount of money prizes, six silver cups of the actual value of five guineas each were given in the poultry classes, and a cup of the value of three guineas was also allotted to the winner of the greatest number of prizes in the Pigeons.

The silver cup for the best *Game* pen was taken by Mr. J. Fletcher, Stoneclough, near Manchester; the silver cup for *Dorkings* by Lady Holmesdale; that for *Cochins* went to Mr. Albert Fenton, of Rochdale, who exhibited two Buff hens such as are but rarely seen. The fourth cup for *Brahmas* was secured by a most excellent pen of Dark chickens, bred and exhibited by Mr. Boyle, of Dublin. The *Spanish* cup fell to the lot of Mr. Beldon, of Bingley, Yorkshire, and the silver cup for the best pen of any variety of *Hamburgs*, to a first-rate pen of Golden-pencilled, exhibited by Mr. Pittis, of the Isle of Wight. It will be thus seen the cups were very widely distributed, nor was there any one of them taken except in a severe competition. The cup for *Pigeons* was awarded to Mr. Robt. Fulton, of Deptford, London.

The general quality of the birds shown was so good as to take many of even the oldest exhibitors by surprise, and the remark was general as to the extreme difficulty in the present day of any one breeder securing the number of prizes that was easily attainable a few years ago.

The display of Pigeons was remarkably good, and that of the *Canaries* and *Rabbits*, was not less praiseworthy.

The Committee were universally congratulated on their great success in the first institution of the Ipswich Show, and there seems to be every probability that in future years this meeting will show greatly augmented proportions, as the success of the present undertaking appears to have enlisted the warm support of most of the gentry of the neighbourhood.

GAME (Black-breasted and other Reds).—First and Third, S. Matthew, Stowmarket. Second, J. W. Harrison, Spalding. Commended, J. Fletcher, Stoneclough, Manchester; J. Smith, Grantham.

GAME (Duckwings and other Greys and Blues).—First and Cup, J. Fletcher. Second, S. Matthew. Highly Commended, S. Matthew. Commended, H. R. Sexton, Wharfedale, Ipswich.

GAME (Any other variety).—First, J. Fletcher (Piles). Second, S. Matthew (Piles).

DORKINGS (Coloured).—Cup, First, and Second, Viscountess Holmesdale, Linton Park, Staplehurst, Kent. Third, D. C. Campbell, M.D., Brentwood. Highly Commended, D. C. Campbell, M.D.; W. H. Walker, Shenfield, Brentwood; J. K. Fowler, Aylesbury. Commended, H. Lingwood, Needham Market; J. Frost, Parham; Mrs. Bailey, Lington.

DORKINGS (White).—First and Second, H. Lingwood.

COCHIN-CHINA (Cinnamon or Buff).—Cup and First, A. Fenton, Rochdale. Second and Third, H. Lingwood.

COCHIN-CHINA (Any other colour).—First and Second, J. R. Rodbard, Aldwick Court, Writington, Bristol (Partridge). Third, Master F. M. Shaw, Rougham Rectory, Bury St. Edmunds (White). Highly Commended, A. Fenton (Partridge).

BRAHMA POOTRA (Dark).—Cup and First, R. W. Boyle, Bray, Co. Wicklow, Ireland. Second, J. K. Fowler. Third, J. H. Pickles, Bridgeroyd, Todmorden. Commended, E. Pigeon, Lympstone, Exeter; J. Hinton, Hinton, near Bath; J. W. Harrison.

BRAHMA POOTRA (Light).—First, F. Crook, Forest Hill, Sydenham. Second, H. Dowsett, Pleshey, Chelmsford.

SPANISH.—Cup and First, H. Beldon, Goltstock. Second, J. R. Rodbard.

Third, E. T. Holden, Walsall, Staffordshire. Highly Commended, W. H. Walker; T. Wood, Black Notley, Essex.

HAMBURGH (Golden-pencilled).—Cup and First, F. Pittis, jun., Newport, Isle of Wight. Second, J. W. Cannan, Bradford. Highly Commended, H. Beldon. Commended, C. Havers, Ingatstone, Essex.

HAMBURGH (Silver-pencilled).—First, W. Baird, Fearncliffe, Bingley, Yorks. Second, J. Walker. Commended, J. W. Cannan; H. Pickles, jun.

HAMBURGH (Golden-spangled).—First, J. Roe, Hatfield, Manchester. Second, J. Buckley, Taunton, Ashton-under-Lyne. Highly Commended, J. W. Cannan.

HAMBURGH (Silver-spangled).—First, J. Fielding, Newchurch, near Manchester. Second, J. Walker. Highly Commended, H. Beldon. Commended, Rev. F. Tearle, Gaseley Vicarage, Newmarket.

HAMBURGH (Black).—First, C. Sidgwick. Second, Mrs. P. R. Burrell.

POLISH (Any variety).—First, H. Beldon. Second, A. Stearn, St. Clements, Ipswich (Silver). Highly Commended, J. Hinton (Silver). Commended, Col. J. D. Shakespeare, Witham (Slate-coloured and White-crested).

CREVE CREVE.—First, The British Poultry Company, Fleet Street, London. Second, withheld.

GAME BANTAMS.—First, J. Croeland, jun., Wakefield, Yorkshire. Second, G. Manning, Springfield, Essex. Third, J. K. Fowler. Commended, R. Mackley, St. Mary's, Norwich; J. Hilton, Ashton-under-Lyne; E. S. Preston, Great Yarmouth.

BANTAMS (Any other variety).—First, J. Roe. Second, Rev. F. Tearle (White). Third, H. M. Maynard, Ryde, Isle of Wight (Black).

ANY DISTINCT VARIETY NOT COMPRISED IN THE BEFORE-MENTIONED CLASSES.—First, W. Tippler, Boxwell, Chelmsford (Houdans). Second, Mrs. P. R. Burrell (Silkies). Third, J. Hinton (Malays). Highly Commended, The British Poultry Company (Houdans).

SKILLING CLASS (Any variety).—First, Master S. M. Shaw (Aylesbury Ducks). Second, Mrs. L. Brackenbury, Downham, Norfolk (Coloured Dorkings). Third, D. C. Campbell, M.D. (Dorking). Commended, J. Jackson, Ipswich (Aylesbury Ducks); H. Beldon; Rev. J. H. Steggall, Great Ashfield Paragon, Izworth, Suffolk (Ducks).

ANY VARIETY.—First, A. Cobbold, Ipswich. Second, C. W. Hammond, M.D., Ipswich (Silver-Gray Dorkings). Third, W. Rayner, St. Peter's, Ipswich (Brown-breasted Red Game).

DUCKS (Rouen).—First and Second, F. Parlett, Great Baddow. **DUCKS (Aylesbury and any other variety).**—First and Second, J. K. Fowler. Highly Commended, H. Dowsett; E. W. Greene. Commended, Mrs. P. R. Burrell; Master F. M. Shaw.

TURKEYS (Any colour).—First, H. R. Sexton (Black). Second, Master F. M. Shaw. Highly Commended, E. Packard, jun., Ipswich; Mrs. P. R. Burrell.

GESEES (Any variety).—First, J. K. Fowler. Second, Mrs. L. Brackenbury (White).

PERASANTS (Any variety).—First and Second, F. Waller, Ipswich (Golden). Commended, P. Podd, Ipswich (Golden); J. Bagshaw, Belstead, Ipswich (Silver).

RABBITS.—First, H. M. Maynard, Ryde, Isle of Wight (Lop-eared). Second, W. Banforth, St. Helen's, Ipswich (Angora). Highly Commended, D. P. Gooding, Ipswich (Lop-eared); J. Scriver, Cornhill, Ipswich (Angora); G. Knights, Ipswich (Himalaya).

EXTRA STOCK.—Very Highly Commended, E. W. Greene, Bury St Edmunds (Carolina drake and Duck).

SINGLE COCKS.

GAME (Any variety).—First, J. Fletcher (Black-breasted Red). Second, S. Matthew (Brown Red). Highly Commended, J. Smith (Brown Red). **DORKING (Any variety).**—First, J. G. Simpson, Springfield, Chelmsford. Second, H. Lingwood.

COCHIN-CHINA (Any variety).—First, H. Lingwood. Second, H. Beldon. **BRAMA POOTRA (Dark or Light).**—First, J. K. Fowler. Second, G. H. Roberts, Penwortham, Preston, Lancashire (Dark).

SPANISH.—First, J. R. Rodbard. Second, H. Lingwood, Bucklesham, Woodbridge.

HAMBURGH (Any variety).—First, J. Roe (Golden-spangled). Second, J. W. Cannan. Highly Commended, H. Beldon.

ANY OTHER DISTINCT VARIETY NOT COMPRISED IN THE BEFORE-MENTIONED CLASSES.—First, H. Beldon (Poland). Second, H. M. Maynard (Crève Coeur). Third, The British Poultry Company (Houdan). Highly Commended, G. Manning (Game Bantam).

PIGEONS.

CARRIERS.—First, H. A. Oakes, Stowmarket. Second, J. Ford, Monkwell Street, London. Highly Commended, F. Else, Bayswater, London; R. Fulton, Deptford, London. Commended, H. Yardley, Market Hall, Birmingham.

POWTERS.—First, R. Fulton. Second, J. Thackray, York. Highly Commended, H. Beldon, Goiststock, Bingley, Yorkshire. Commended, R. Fulton.

TUMBLERS (Almond).—First, F. Else. Second, J. Ford. Highly Commended, J. Thackray; R. Fulton.

TUMBLERS (Any other variety).—First and Second, R. Fulton (Black Mottled). Highly Commended, J. Ford (Agate, Kite). Commended, H. Beldon.

JACOBINS.—First, M. Wicking, Blackheath Park, Kent. Second, C. Bulpin, Riverside, Bridgewater. Highly Commended, F. Else; E. Horner, Harewood, Leeds. Commended, T. B. Hazell, Colchester; H. Beldon.

FANTAILS.—First, M. Wicking. Second, F. Else. Very Highly Commended, R. Dodge, Sheffield. Highly Commended, F. Else. Commended, T. B. Hazell.

TRUMPETERS.—First, J. Thackray. Second, H. Beldon. Highly Commended, J. Thackray. Commended, F. Walitt, Sparkbrook, Birmingham.

TURBITS.—First, F. Walitt. Second, J. Croeland, jun., Wakefield, Yorkshire. Highly Commended, M. Wicking; F. Else. Commended, M. Wicking; R. Dodge.

BARBS.—First, R. Fulton. Second, J. Thackray. Highly Commended, J. Thackray. Commended, E. Pigeon.

MAGPIES.—First, M. Wicking. Second, J. Percivall, Peckham Rye.

ANY DISTINCT VARIETY NOT COMPRISED IN THE BEFORE-MENTIONED CLASSES.—First, H. Beldon. Second, J. H. Stockall, Liverpool (Ural). Very Highly Commended, J. Ford (White Dragons); M. Wicking (Helmets); H. Yardley; F. Pittie, jun., Newport, Isle of Wight. Highly Commended, J. Thackray; J. Percivall (Isabels); H. Yardley.

CAGE BIRDS.

CANARY (Clear Yellow).—First, J. Drake, Ipswich. Second, R. Mackley, Woolpack Inn, St. Mary's, Norwich. Highly Commended, W. Adams; G. Y. Collinson, Thorpe Hamlet, Norwich; R. Mackley.

CANARY (Crested or Turn-crowned).—First, J. Prime (Turn-crowned). Second, G. Y. Collinson (crested Norwich cock). Highly Commended, J. Drake (Mottled Turn-crowned); T. Fenn, Ipswich.

CANARY (Marked or Mottled).—First, R. Mackley (Marked yellow cock). Second, G. Y. Collinson (Marked Norwich cock). Very Highly Commended, Mrs. G. Allen (Mottled). Highly Commended, J. Drake. Commended, W. Adams (Mottled).

CANARY (any other variety).—First and Second, G. Y. Collinson (Cinnamon cock, Yellow Belgian hen). Highly Commended, Mrs. G. Allen.

GOLDFINCH MULE (Mealy).—First, R. Mackley. Second, J. Drake.

GOLDFINCH MULE (Yellow).—First, R. Mackley (Jonque). Second, W. Adams. Highly Commended, J. Drake.

FOR THE BEST SIX CAGE BIRDS (Any varieties, English or Foreign).—First, R. Mackley. Second and Very Highly Commended, J. Drake. Highly Commended, J. Solomon, Ipswich; J. Prime; T. Fenn. Commended, F. Gull.

The prizes for *Poultry* were awarded by Edward Hewitt, Esq., of Sparkbrook, near Birmingham; and those for *Pigeons* by B. P. Brent, Esq., of Buxted, Sussex.

THE BIRMINGHAM POULTRY SHOW.—The entries for the forthcoming Show in Bingley Hall closed on Thursday last, and the result must be highly gratifying to the Council. We subjoin the numbers for this and the four preceding years:—

	1882.	1883.	1884.	1885.	1886.
Poultry ..	1864	1506	1677	1675	1595
Pigeons ..	232	275	290	351	400

The entries, as we anticipated, show that the changes which have been made in the plan of exhibition are approved by those who are more immediately interested, and we have every confidence that they will be found no less convenient and satisfactory to purchasers.—(*Midland Counties Herald*.)

NOTES ON FANCY PIGEONS.—No. 6.

FORMER ENGLISH WRITERS ON THE SUBJECT.

WINDUS—A.D. 1802.

DANIEL GIRTON, the date of whose book I have hitherto been unable to ascertain, but I imagine it soon followed "The Treatise of 1765," had up to 1802 been, as I have before said, the authority on all matters relating to fancy Pigeons; indeed on the Pigeon subject generally his "New and Complete Fancier" was the authority even for many years afterwards. It was frequently reprinted, and, consequently, extensively read. I scarcely knew a fancier, even a humble one, when I was a boy, who did not possess or had not read Girton. It was the English fancier's guide—his *vade-mecum*, and it was well worthy to be, being the most complete book on its subject as yet published.

But it must be noted that a difference of taste in the high-class fancy had come with the advance of time. When Moore wrote, the large and noble Powder was the first in esteem with fanciers who devoted most time and money to Pigeons, although, of course, the Carrier had always held its ground, as doubtless it always will. The majestic and portly Powder, however, began to find a rival in the fairy-like and diminutive Almond Tumbler. This change of taste from the Powder to the Tumbler is seen by the increasing space given to the latter bird in the three books of which I have already spoken. Thus, Moore scarcely gives a dozen lines to the Almond Tumbler, and even speaks of it somewhat slightly. Next the author of "The Treatise" devotes a whole chapter to it, and a very well-written and interesting one it is, and he even sets it by a careful comparison above the Powder. He, moreover, tells us, "The perfections and imperfections of the Almond Tumbler may be particularly seen in a kind of standard calculated for the better judging of this bird, lately published by some admirers of this fancy, elegantly engraved on copper-plate, at the top of which is an Almond Tumbler, very finely executed, the outlines being inimitably well performed, and by much the best I ever saw, and at so reasonable a price as sixpence, and which may be had, I imagine, at most of the print shops in Town; + the intention of which was to enable the umpires to form a true judgment of the Almond Tumblers that are shown for the prizes at the Columbarian Society." Query, Was not this the first "Standard of Excellence?" and were there any prize poultry as early as 1765? Let not the Pigeon be despised, as it is too apt to be. I am rejoiced to see by this day's JOURNAL OF HORTICULTURE (Oct. 16), that the wife of our premier Earl, and present Prime Minister of England, is a Pigeon fancier and a prizetaker as well. Thus, at page 303, I read—"Farnworth Show. Pigeons—Isabels (Silver).—Prize, Rt. Hon. Countess of Derby." May many other ladies follow this good example.

To return. Girton, who followed "The Treatise," also speaks at length and highly of the Almond Tumbler: yea, he even grows eloquent in praise of its beauties. Thus we may see clearly that the Almond Tumbler had greatly advanced in favour during the latter part of the eighteenth century, selling,

* The catalogue of the British Museum assigns to it the date of 1800, but adds a mark of doubt (?).

+ I have never seen one of these, but should be greatly obliged by the loan of one, if any reader possesses it.

sometimes, at four guineas a-pair. Still this was little to the sale of Powters, which was important enough to be inserted in the "Gentleman's Magazine" of January 1761, when one pair sold for sixteen guineas, another for thirteen, to be resold by private contract for actually thirty-six guineas! Still it must be confessed, judging from the engraving of the Almond Tumbler in "The Treatise" and in Girtton, and judging, too, that no nurses for its young are mentioned as being needed, and that "if supplied with meat, water, and a little clean straw, it gave no further trouble"—the very reverse of what is now true—compared with what it became afterwards it was but a coarse bird. It was, however, a favourite, and was becoming gradually more refined in look and feather, especially as "A society had been formed for the encouragement of the breed, and improving its beauties."

And now, I think, is the right place to ask how it was that this little Pigeon gained such a hold on the regard of fanciers, why it had become so valued, and, consequently, so valuable, and why it is now a great favourite, and as expensive as ever? I answer it rose into favour first, probably, because it could be so much more easily kept in London (and London is the seat of the fancy), and we must bear in mind that London after the middle of the last century was rapidly becoming a larger city and more densely crowded. The Almond Tumbler wants no wing room, as does the Powter; it does not need to be let out to fly; a little warm attic is its best home, so it cannot be trapped by dishonest persons. It is a small bird, little more than a cage bird—the very bird to make a pet of. Then its colour and shape please the eye when it is near at hand; also its large capabilities of improvement—at first these must have been very great; further, the variety of feather which it will throw, many nestlings being absolute surprises, and the pains and care which it takes to rear good. Then we may add the pleasure of competition, the social meetings of the members of the Columbarian Society, where all present could join in the conversation and enjoy it. It is the bird for the man "in crowded cities pent." It is just fit, too, to be a lady's or invalid's pet. Sailors, we are told, make pets of the large Runts they keep on board ship. Ladies and gentlemen suitably make pets of Almond and other high-class Tumblers; indeed the Almond and its congeners are beautiful and elegantly-shaped birds.

It is clear that during the last quarter of the eighteenth century the Almond had improved greatly, and the elegant little black and yellow Mottles had begun to be mentioned and made prize birds of; and so at length it happened that this century had only just begun when a special and an expensive book was published relating to this variety of Pigeon only, a book of which it was the sole subject. This book was called "A new and Compleat Treatise on the art of breeding and managing the Almond Tumbler, &c. Printed for the Author by W. Williams, No. 35, Chancery Lane, London. Price 5s. 1802." The name of the author is not given; but Mr. J. M. Eaton, himself a Londoner and an old Pigeon fancier, states that it was written by—"Windus, Esq., Solicitor, Southampton Buildings, Holborn." As the book was evidently written by a man of education, and 1802 is not so very long since, and an author in a peculiar line is easily traced—indeed Mr. Eaton may have met Mr. Windus at the Columbarian—I have no hesitation in attaching the name of Windus to the publication.

This treatise on the Almond Tumbler reached a second edition in 1804; this is surprising when we consider the price, but it proves that the bird of which it treated was kept by a great many persons of means. Moore published his "Columbarium" at only 1s., yet the issue was small, it met with little sale, and no second edition was called for. After 1804 the wants of the fanciers were, I imagine, supplied. My copy, that of the edition of 1802, belonged to a titled member of one of our oldest Cornish families. It is a well-printed book, and contains 104 pages. There is this peculiar honour attached to Windus, that he, like John Moore, wrote an original work. What Moore's book was to fancy Pigeons in general, that of Windus was to the Almond Tumbler. He says in his dedication, "To the Gentlemen of the Columbarian," "As the amusement of keeping and breeding the Almond Tumbler is now become very general, and a society of great respectability is formed for encouraging the breed, and improving its beauties, and as no treatise on these birds only that I am aware of, is or ever was written, &c.;" and as this is said to those who would be sure to have known the existence of such book, and could and would have contradicted him, we may conclude he was an original in this species of literature.

There is a pleasant modesty about Windus. Thus he says,

page 7 of his dedication, "It is only by a natural taste for, a long acquaintance with, and a thorough knowledge of these birds, that the eye is brought to discover those beauties which escape the notice of an indifferent beholder. It may also be advanced that this is a study of no great utility; this I readily admit, and treat it accordingly, as a mere amusement or fancy. But that it is a rational amusement (as everything connected with natural history must be), no one can deny." Windus writes with a thorough and most minute mastery of his subject, also plainly, and with perspicuity of expression; while the arrangement of his matter is worthy of a lawyer. As a guide to the young Almond fancier of that day it was admirable, nay, it is a good guide now. Mr. Eaton borrowed the whole plan of Windus when he wrote his "Treatise on the Art of Breeding and Managing the Almond Tumbler, 1851," and transferred more than sixty of its pages, printing them usually verbatim from this book of 1802. Indeed Mr. Eaton could not well have done better, though perhaps he ought to have called his work "A third edition of Windus, with additions, bringing the subject down to the present time." The additions are for the most part excellent, and show the result of years of careful watching as regards the habits of the Almond Tumbler.

Windus first gives us the five standard properties of the bird—feather, shape, eye, head, and beak, placing the bird and its' perfections well and distinctly before the reader. Now and then he describes very neatly, as when he says, "The hackle, or neck feathers, should be bright and well broken with the same colours, and should resemble the delicate touches of the pencil of a fine artist"—the latter expression is perfect. And then showing how carefully he had watched the various movements of the bird, he adds, "If the cock is naturally of a good shape, it is more particularly conspicuous when he is driving his hen to nest, for then he shows himself in his greatest beauty, and to the best advantage." After a careful description of the bird he passes on to "The Loft," "Matching and Pairing," "Penning," "Nests," "Laying," &c., showing the most accurate knowledge; he even gives "Marks by which to ascertain the colours of young birds in the nest." Particulars of food and drink, means of keeping the birds in health, parting them after the breeding season, their diseases, &c., are fully noticed; indeed, whatever is wanted to be known may be learned, and then he ends his well-written, well-arranged, and most practical book with a number of "Miscellaneous Observations." He appeals to the portrait of the Almond Tumbler which forms the frontispiece (a picture by the way which shows a marvellous advance in the breed and beauty of the bird since the days of Girtton), saying, "Although the portrait was taken from life, yet it must be acknowledged that it is an embellished and a partial one, and those imperfections which the original possessed, intentionally remedied, for the purpose of forming some criterion for the young fancier to look up to in breeding his birds. It is in this, as in everything else in nature, that perfection is scarcely ever to be obtained, therefore the nearer you approach to what is considered and laid down by fanciers as perfection in these birds, the nearer you will approach the appearance represented in the frontispiece, taking it for granted that I am right in such representation. So far, therefore, the representation will be some guide. The bird is coloured in water-colour for the purpose of giving as good a representation of the feather of the bird as it will admit of; but as it is done upon an engraving, which must necessarily give it an additional flatness, it is impossible to preserve that fine glossy appearance, or show the colour of the feathers to such perfection as might be done if the paper would admit of oil colouring."

It should be noticed that this model bird differs from the model bird of the present day in its being somewhat stouter, and in its flight feathers not being drawn drooping below the tail. It is beautiful, but the fancy has advanced, in colour at least, since 1802. Mr. Windus then concludes with a few modest yet manly words about his work, and, as a postscript, gives an account of the proceedings of the Columbarian Society.

I have now passed in review all the English works (so far as I know), of an older date, and traced Pigeon lore, and marked the advance of the fancy from 1735 to 1802.—WILTSHIRE RECTOR.

KENDAL POULTRY SHOW.—The entries for this Exhibition close on the 7th of January. The highest prizes, except for local exhibitors, are 30s., but there are twelve cups, varying in value from five to two guineas.

TAKING COMBS FROM A BAR-HIVE.

A few days ago I performed the operation of taking the two outside combs from a square bar-hive, or rather attempted to perform it, for I only succeeded in securing one.

I covered my head with a bee-dress, and my hands with leather gloves, about 11 A.M. on a sunny day. I unscrewed the top and slipped it a little to one side, so as to expose one bar; the bees at once swarmed up through the opening. As the comb was on a bar, but not in a frame, I had to cut the comb away from the side. I was provided with a knife made on purpose for this operation; I introduced it, and in a moment slipped it up and down one side. So far all safe, but now commenced active hostilities. As soon as the knife and the hand which held it approached to sever one side, the glove was covered with bees, and before attempting the other side I had to retreat and clear my glove of the bees, which, having got their stings in the leather, could not escape—a few of them had even penetrated to my hand. After this I returned to sever the other side, and again had to kill numbers of the bees firmly fixed in the glove. I now introduced two hooks to lift out the bar. As soon as my two hands came near to introduce the hooks both gloves were again covered; and on lifting out the comb I was so surrounded and beset by the angry bees, that, although protected from their stings, I was afraid to interfere with the other outside comb.

Now as, in the pages of the Journal, I have often seen this operation described as if it were the easiest thing imaginable, I did not expect to be so beset, or to cause the death of so many bees, for I must have had hundreds of stings about my dress. This is my first year of bee-keeping, will you tell me whether what I have described always accompanies the operation of taking out a comb, and whether there is any way of preventing it, either by fumigation or any other means, and did I proceed in a proper manner? Also, in draining honey from the comb, what is the brown red matter in some cells, and the white matter in others? and should these be put in to drain with the honeycomb? Which do you consider the best book for a novice in bee-keeping? In giving 20 lbs. as the nett weight of a stock to stand the winter, do you include the bees and comb? if not, what should be allowed for them?—J. R. BAYTON.

[We always remove the crown-board entirely, believing that sliding it partially on one side, is, like most half measures, a mistake; nor do we require to use smoke or to wear gloves during such an operation. The conduct of bees, however, varies so greatly, and yours in particular have manifested so pugnacious a spirit, that we should advise your blowing a few whiffs of smoke under the top board prior to commencing your next operation. In about half a minute lift off the crown-board and go boldly to work, remembering that coolness and resolution go for a great deal in manipulating bees, and that timidity and hesitation are very apt to be not only the precursors but the actual causes of failure. We recommend "Bee-Keeping for the Many," as the best adapted to a novice. The weight of 20 lbs. includes bees and combs. The coloured substance found in some of the cells is pollen, and the white matter young larvae with their food. Neither should be permitted to mix with and contaminate the honey.]

A LATE SWARM.

An instance of the advantage of knowing each queen individually occurred in my apiary on the 19th day of September last. About 11 A.M., I was walking round my garden, when at some distance from any of my hives I discovered upon one of the beds a cluster of from four to five hundred bees, and on examining them I found a Ligurian queen amongst them, many of the bees being chilled and apparently dead. I had no idea from which hive the bees had come, and it would have been no easy operation at that time of the year to have examined all my stocks of Ligurians, to find out to which they belonged; so I put them into a small box with some honeycomb, and took them to the fire, when all the chilled bees revived.

It was too windy and cold to examine any of my stocks that day, and the next I exhibited my bees, &c., at the Middleton Agricultural Show, and had awarded to me six prizes for the best make of bar-frame bee-hive, honeycombs in bar-frames, &c. The Ligurian queen in my improved unicomb-hive was laying eggs all day, although so late in the season, and was an object of interest to numerous visitors.

The 22nd of September being fine, and having examined the pedigree of my queens, I found the description of one to

correspond with the queen I had found, so I went straight to the hive and examined every comb, but could not find any queen in the hive, but on one comb I found two royal cells commenced, and one on another. This was a positive proof that the stock had lost its queen two or three days before, so I cut out the royal cells and returned them their queen, which they gladly accepted and they seem to be all right since.

I cannot account for this swarm leaving the hive, as the queen was only two months old, having been hatched on the 17th of July, and is a very prolific one. I think the swarm had issued the day before, and that all the bees except the few I found with the queen had returned to the hive, and that would account for so many of the bees being chilled. I believe this is the latest swarm on record.—WILLIAM CARR.

[We have some doubts as to whether this was an actual swarm, but are inclined to fancy that the queen had deserted her hive and was afterwards discovered by the few workers that clustered about her. We should in this case fear that she will come to grief during the approaching winter, and that little will really have been gained by returning her to a home which she may have deserted, or from which she may have been expelled.]

HYBRIDISATION OF BEES.

I SEND you a bee which I think has some strain of the Ligurian in it. What makes the circumstance more peculiar is, that there are no Ligurians kept within five miles of my apiary. The hive the bee is from is a stock which threw out a large swarm about the 21st of June. Do you think it is possible that the young queen on her wedding trip would meet with a Ligurian drone kept so far from her own home? I should say that about one bee in every six that came out of this hive was marked like the enclosed.—A SOUTH LANCASHIRE BEE-KEEPER.

[The bee is a distinctly marked Ligurian, and we have no doubt that the queen which bred it has been crossed by an Italian drone. Five miles is, we believe, a longer distance than has before been recorded in England, but German apiarians declare that drone influence sometimes extends as far as six miles.]

OUR LETTER BOX.

BANTAMS RUNNING WITH DORKINGS (*Old Subscriber*).—Some people say that Bantams and Dorkings or Cochins will cross. We say they will not. We have allowed them to run together for years without injury. Of course we speak of real Bantams—small birds. We have seen so-called Bantams as large as small Game cocks.

BANTAMS (*W. W.*).—Black, White, or Game are the best Bantams for a beginner to keep, because they breed freely. In the ordinary classes all these should have clean legs. The Game must of course have single combs; the Black and White should have double. The cocks of the Game only should be dubbed. The Japanese and some others are feather-legged. The Sebright are remarkably beautiful, but they do not breed so freely as the commoner sorts.

BRABMA POOTRA COCKERELS (*J. R. Bayton*).—Brahma cockerels show their combs long before twenty-one weeks. Even as chickens at seven or eight weeks old the sexes are plainly distinguishable both by size and plumage. Leaving combs out of the question, the heads are larger, the plumage is quite different, being black and white, while the pullet is uniformly marked, and the cock has for a tail a small round bunch of eight feathers.

SIZE OF PERCH (*Idem*).—The perch mentioned at page 360 is none too large. It is injurious to fowls to have them so small that they can clasp round them. Such are productive of crooked breasts. Watch Pheasants at roost—you will find they do not choose the smallest boughs. We have used the broad but not flat perches with success for years. In a house where we have between fifty and sixty Brahmans, with perching accommodation for all, one-third always roost on the ground.

ROUSEN DRAKE (*A Quack*).—Yes, the drake should have a ring round his neck. Rouseen Ducks should be the counterparts of wild Ducks in everything but size.

WHITE DORKINGS (*Harriet*).—The White Dorkings are not considered better than the others in any respect. They are liked by some on account of their colour, which is pleasing; but the scarcity of them shows they are not much kept. If the White pullet is running with a cock similar to herself you may set her later eggs, but not the early ones. None of these small eggs would be fit for sitting. It is never advisable to set a pullet's first eggs—they do not produce good chickens; but the same rule does not apply to the last eggs of the first laying.

PERCHES (*Gulielmus*).—You will see some remarks on roosts in answer to another correspondent to-day. See what was said at page 360. Crooked breasts do not injure the breeding power of fowls, but are fatal to prize-taking. Low perches and a sand floor are better than a barred floor.

HONEY (*W. D. A.*).—The honey is excellent, and the wax white and pure—we never met with any better. We, therefore, differ entirely from the "wife of your bosom;" but she could have had nothing to do with putting them into the jar, or she would have tied something over the mouth to have prevented the honey running out.

CANARY NOT SINGING (*A. R. H.*).—You do not say if this is the second season of your canary's moulting, or if he has moulted twice this autumn. I conclude that you mean the latter, in which case I suspect there is something wrong in your management. Either the bird has too much hemp or rape seed, or else is kept in too close an atmosphere, possibly where gas is burned. Feed him more naturally, and in time he will regain his song.—B. P. BERRY.

WEEKLY CALENDAR.

Day of Month	Day of Week	NOVEMBER 20—26, 1886.	Average Temperature near London.			Rain in last 30 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m.	h.	m.	h.	m.	h.	m.	h.	Days.	m.	s.
20	Tu	Sun's declination 19° 43' S. [1840.	42.0	34.7	41.3	13	39	af 7	3	af 4	18	af 8	21	af 4	18	14	18
21	W	CROWN PRINCESS OF PRUSSIA BARN.	42.5	35.5	42.0	14	39	7	3	4	58	8	45	5	14	18	58
22	Th	Echeveria Schoerli.	42.2	34.0	41.8	23	32	7	1	4	40	4	1	7	0	18	42
23	F	Epacris impressa.	47.8	34.5	46.4	17	34	7	0	4	34	5	17	8	16	18	26
24	S	Erica distans.	47.4	33.2	45.8	12	36	7	59	3	35	6	22	9	17	18	9
25	SUN	20 SUNDAY AFTER TRINITY.	46.4	33.4	45.9	20	37	7	58	3	44	7	19	10	18	13	51
26	M	Erica pilularis.	47.3	33.2	45.3	20	38	7	57	3	53	8	7	11	19	13	52

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 48.0°; and its night temperature 34.1°. The greatest heat was 63°, on the 25th, 1863; and the lowest cold 9°, on the 23rd, 1858. The greatest fall of rain was 0.95 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

CULTURE OF VARIEGATED ZONALE PELARGONIUMS.



HAVING been rather successful in growing the variegated Zonale Pelargoniums, and inquiries still being made as to the culture of these, it may be useful to

state my experience, which differs somewhat from that of Mr. Pearson.

I prepare my soil in the same way as he does, but add to the horse-droppings a lot of the parings from horses' hoofs, obtained from the blacksmith. I mix these and the horse-droppings, place a layer of turf at the bottom of the intended heap, and over the turf horse-droppings to the depth of 1 foot, then another layer of turf, next a layer of droppings, and so on, decreasing the thickness of the droppings as the heap gets higher, and finishing with two or three layers of turf. I then cover the whole with a lot of straw or litter to keep out the rain, and assist in retaining the heat-generated by the decomposition of the ingredients. In the parings from horses' hoofs I have a cheap source of ammonia, for of this they contain a large amount, and they give it off when in a state of fermentation in the heap, and the layers of turf will completely absorb the ammonia which is set free. When the heat has declined, the heap should be chopped up, and mixed together, and again laid up in the same way. In all probability a second rise in temperature will occur, and then the compost is fit for use.

Such is the way in which I prepare the soil for the pot culture of all plants which require a clayey loam, in whatever proportions, to grow in. I prefer a clayey loam to what is termed a sandy loam; the latter, when looked at through a microscope, has just the appearance of gravel with a lot of fine threads run through it in all directions, the remains of the roots of former plants. When these roots are decomposed they leave but a small quantity of matter for the use of other plants, and such soils are soon exhausted, and they are also generally deficient in some of the most essential ingredients of the food of plants. It is different with soils of a clayey nature; they generally abound in potash—an essential ingredient in the composition of nearly all plants, although it may be in chemical combination with other matters; and though plants may be unable to obtain it in that form, the preparation of the soil, described above, sets it free, as it also does the silicates and other inorganic compounds.

I have entered thus far into the nature of soils, as it is in on this point that my experience differs from Mr. Pearson's. In pot culture I use less than a third of the above prepared soil; the other two-thirds being made up of leaf mould,

white sand, and sphagnum roughly chopped up; but I make no preparation for them in the beds in the flower garden, as they grow as well as Tom Thumbs and other Pelargoniums in the natural soil, which is what I would term a sandy loam—in fact, it is just sand with a small proportion of organic matter, and it has had no manure whatever, with the exception of a little leaf mould once in two or three years. The beds are trenched from 2 to 3 feet deep about every second year, and forked over once or twice during the winter and spring when the weather is suitable.

Mr. Pearson seems not to use any leaf mould in pot culture, and were I as convinced as he is that it only acts "mechanically" I would not use it either; but I think we have no soil (or manure if you like so to call it), in which we have the inorganic food of plants so well and so readily prepared for the use of plants as when leaves are decomposed or undergoing decomposition. Take, for example, silica in any of its combinations. How difficult it must be for plants to obtain it in some soils! but we have it in abundance in some of its forms in leaf mould, it having been formed or abstracted from the soil by the trees, and partly retained by the leaves, and ready prepared for the use of other plants requiring that or any of the other constituents of the food of plants.

Mr. Pearson's soil, it is true, may do without leaf mould, having all the elements fit for the food of plants already in it; but the case may not be the same with every one, hence I say in leaf mould we have a ready source of many of the inorganic elements which plants require, and it is therefore useful in certain proportions.

I have just measured a Mrs. Pollock, growing now in a 10-inch pot, it is 2 feet high, and 2 feet 6 inches in diameter, and I see it has made shoots 2 feet in length this season. It was a cutting in March, 1865, and had I desired I do not think it would have been difficult to have grown it as large again in the same time. Some of the old leaves I find are now 6 inches across, and there were plenty in the beds in the flower garden even larger.

I am strongly of the opinion that in a short time almost every one will find Mrs. Pollock, at least, as easily grown as Tom Thumb, when once the plants are in a healthy stock; but I see in gardens many plants of it which will defy the best of culture, they are constitutionally unhealthy, and until they have rest from the cutting and consequent weakening to which they are subjected, no healthy plants will be seen. With precisely the same treatment mine now grow as fast again as when I first had Mrs. Pollock and Sunset. I make it a rule never to take off a cutting until another shoot has shown itself on the same stem; by doing so I obtain a strong healthy cutting which makes a strong plant, while its removal does not weaken the old plant so much as taking off the ends of the shoots whenever these are long enough to make cuttings.

I lift all the plants from the flower garden in October, or before frost, shaking every particle of the soil from them, cut the roots well back, and place them in pots just large enough to allow them to hold the roots with ease, using mostly leaf mould, sand, and only a small quantity of the

prepared soil. In a week these pots will be full of roots, if the plants be kept in a warm pit close to the glass. Those intended to form large plants should be potted into larger pots. In March and April I frequently take these large plants out of the pots they are in, and reduce the ball, cutting away all the outside roots, and placing them again in smaller pots. By treating them in this way I find that they grow much better than in the old soil.

Mr. Pearson's advice as to the treatment of plants that are unhealthy—viz., "to shake all the soil from them, and repot in smaller pots," is good. Like Mr. Pearson, I was afraid to purchase Lucy Grieve at three guineas, hearing that it had such a bad character for weak growth, and when my plant arrived it had only three leaves; a poor sickly-looking object it was. I shook all the soil from the roots, gave some of my own compost, and in a short time the plant made six leaves; but I observed the appearance of decay in the stem just above the soil. Here, then, was a case requiring instant decision; there was no chance if the plant remained as it was, but would such a poor-looking shoot ever make roots? It must be tried; and off went the head, and I was fortunate in being able to make the cutting at a joint above where the brown decayed appearance had reached. The cutting struck, and is now in a five-inch pot growing as freely as Mrs. Pollock, and certainly an improvement on that favourite variety. I have no fear that Lucy Grieve will not grow as well as Mrs. Pollock, and better than Sunset or Italia Unita, which varieties I also grow. I find none of these kinds will grow or keep well in a cold house; they require heat, in this part of the country at least. In propagating them I keep the pit at 70°, or higher at times, with a moist atmosphere, and the plants should on no occasion be without water. To grow them well they must not have a poor low system of feeding, merely keeping life in without progress. They must be carefully attended to, and liberally supplied with all they require.—ALEX. SHEARER, *Yester Gardens*.

I see that Mr. Pearson says that it is not possible to grow these Pelargoniums so as to preserve the brilliant colour all the year round; and if your readers follow Mr. Pearson's advice they cannot do it, as the fresh stable manure will destroy all the beauty of their foliage. They do not require manure of any description.

I grow thirty-five varieties of variegated Zonales, and I often exhibit them during the winter months, and it has been thought a great mystery; yet I can assure you that the cause of so many complaints that Mrs. Pollock and others lose their beauty is the manure that is used in the potting.

Such a compost as Mr. Pearson recommends is sufficient to turn a plant of Mrs. Pollock quite green until the manure is quite consumed, and then the plant will return to its former beauty.

I have plants at the present time good enough for any exhibition, which you can see by the leaves that I have enclosed. I have also a great number of seedlings quite as good in colour.

The only thing that is necessary to insure good colour is to strike the cuttings in July in 60-sized pots, placing only one cutting in a pot. The compost must consist of soft fibry loam and a very small quantity of peat, with one-third of coarse silver sand, or some Thames or other river sand washed clean. The cuttings must afterwards be potted or shifted in the usual way, placed on a shelf in a warm house, with plenty of air every day. Plants treated in this way will give satisfaction, and leave no room for complaint or disappointment, will gratify the eyes of all lovers of beautiful plants, and will be an ornament to any conservatory.—JOHN ALDRED, 22, *Bridge Street, Kilburn*.

[We have inserted this communication with great pleasure. It is from the pen of a man self-taught, and whose daily occupation as an omnibus conductor is as unfriendly to floral pursuits as could well be devised. However, love laughs at obstacles, whether it be fixed upon a fair maiden or a fair flower; and Mr. Aldred has proved this beyond dispute, by not only cultivating Zonale Pelargoniums to please his own taste, but so as to produce varieties, and specimens of those varieties, superior to most that have been produced even by professional florists. He is the raiser of that very beautiful variety Sophia Dumaresque, sent out by Messrs. E. G. Henderson, and of many other good varieties; and heartily do we hope that he will long continue to achieve similar successes, and that others may be encouraged by his example not to be deterred from pursuing gardening under difficulties. The leaves were good in colouring, but small in size.]

ASPARAGUS FORCING.

THE forcing of Asparagus is one of the most simple of garden operations, and one in which success is more dependant on the preparation of the plants, or the strength and quality of those employed, than on their after-treatment.

The plan which I pursue has been practised by the brethren of the spade for considerably more than a century. It consists in the ground intended to be planted being trenched from 2 to 3 feet deep during a dry period in autumn, a dressing of well-rotted manure, leaf mould, and sand being first given, and properly intermixed as the trenching proceeds. The dressing may consist of 6 inches thick of manure, 3 inches of leaf mould, and the same depth of sand.

Towards the end of March, or early in April, the ground should be marked out in beds 4 feet wide, with 18-inch alleys between them, and when the plants begin to push their crowns, or grow, a line should be stretched 6 inches from the side of the bed next the alley (pegs being put down at the corner of each bed to indicate the position of the beds and alleys), and a trench cut, as if for laying Box, but deep enough to allow the roots to be laid out without doubling. The plants should be inserted in this trench at 9 inches apart, and with their crowns 2 inches below the surface. The trench is then filled in and another taken out 9 inches from the last, proceeding as before until the last row in the bed is planted, and that will be 6 inches from the side of the bed opposite that where the planting began. Passing over the alley, proceed with the next bed, and so on, care being taken to cover the crowns with soil to the depth of 2 inches. The plants recommended are those one year old, and they should be taken up carefully with a fork. After planting the soil should be kept moist; but if losses occur fill up the vacancies with plants kept in reserve for the purpose, and which may safely be planted as late as the end of June, for though the foliage may become brown fresh shoots will start from the crowns. The distance at which the plants are put in may seem very close, as indeed it is; but we must bear in mind that the beds are not intended to be permanent, and are only made to furnish plants of sufficient strength for forcing-purposes by the third year after planting.

All that is required the first year after planting is to keep the ground clear of weeds, and in autumn the stalks should be cut away when they decay, and 5 inches thick of manure spread over the beds after lightly stirring their surface. In February they should be lightly forked over and left rough until the end of March, the alleys also being forked over, when the surface should be made fine and raked, and the alleys neatly cut out but as the plants are situated near the sides of the bed a little roughness is better than using the spade to make a fine straight edge and going so deep as to injure the roots. The alleys being cut out, give a very slight sprinkling of salt, and in six weeks this application may be repeated. From the end of May to the end of August a thorough watering with liquid manure once a week will be of very great benefit. In autumn the surface of the beds may be drawn off into the alleys, and the beds well dressed with manure, and otherwise treated as in the previous year. The beds are dressed in spring and liberally supplied with liquid manure; and now that the autumn of the third year has arrived and the stalks are cut down, the plants will be such as we should calculate to be in full bearing in the following or fourth year. I find, however, that the plants are strong enough for forcing by the autumn of the third year, and prepare accordingly by placing over those intended to be forced a good covering of loose or long dry litter, so that in case of frost the roots can be taken up and the frames filled independently of the weather.

About the middle of November a bed should be formed of well-fermented horse-litter, which has been thrown up some time previously, and turned over once or twice to part with its excessive heat and rankness, wetting it if it be disposed to become too dry; but as the demands for litter are often very pressing at this season, I have to content myself with making up a bed of leaves, using no more litter than sufficient to hold the leaves together. The bed is made about 4 feet high in front and 5 feet at back, beating and shaking out the materials as the work proceeds; but if dung is the material employed the bed is made 1 foot less in height. In any case it should be 1 foot wider all round than the frame. The frame and lights are then put on (a two-light frame will afford a fair supply for a moderate family), and in a few days the heat will have risen. By means of a trial stick ascertain the heat, and when that becomes moderate level the bed, and

spread equally over it 8 inches of soil. Now take up the plants, and commencing at one end by taking out a trench, do it carefully without destroying the roots more than can be helped. Commencing at the front of the frame, pack the roots as closely together as possible, spreading out the fibres and filling-in between them with soil, which may be of a lightish nature and fine, and neither very wet nor dry. Cover the crowns with an inch of soil, and let that be 9 inches or a foot from the glass. Put on the lights and keep them close, but admit a little air daily to let off any steam. The temperature of the bed may be from 55° to 60° for ten days, and then by adding fresh hot dung at the sides it should be increased to 65°, covering at night with mats, and in severe weather with straw, and banking up the sides of the frame with hot dung or litter.

When the shoots appear the grower must decide whether he will have them blanched or green; if the former are preferred they can be secured by placing inside the frame 6 or 7 inches of sawdust, but if the latter, this should not be done. If blanched heads are wanted the frame must be kept close and covered up day and night until the heads appear through the sawdust, when, air and light being given, the tips of the shoots will become coloured in a few days, and may then be cut. Six inches or more of the lower end will be white, and the tips of the shoots for an inch or so will be of a beautiful rosy-purple tint much liked by some. On the other hand, when Asparagus is required to be green, or not blanched, the frame must be kept close until the shoots are 6 or more inches in length, and air being then admitted, they will attain a degree of colour necessary for flavour. By either process enough Asparagus will be produced to carry us over Christmas and New Year's-day. The heat of the bed must, however, be maintained by linings.

The bed will continue to produce for a period of about three weeks, and even longer if the roots are good and the heat moderate and sufficiently maintained; but the heads, though continuously produced, soon become too small. The first heads are the best, and those produced later are smaller; hence it becomes necessary to make up another bed about three weeks after the first, and so on in succession, and by these means forced Asparagus may be had from Christmas until it is produced in the open ground. I do not, however, consider that at all desirable, for the plants cannot be taken up and put in a frame without the roots and vigour of the plant being injured to some extent, consequently beyond making up two beds in the above manner for an early supply, I do not consider it desirable to pursue that method further, or even not at all where Asparagus is not required until the end of January, for it can be produced much finer, more abundantly, and with less trouble by forcing it where grown, and the method of doing so I will now endeavour to describe.

From the beds that were covered with litter this should be removed, the surface must be loosened with a fork, and if the heads are required blanched, 9 inches of the soil of the alleys should be thrown over them. The alleys are then taken out to a depth of 8 feet, a frame corresponding to the width of the bed is placed on the beds, or, failing that, inch-deals 9 inches deep or wide, supported by stakes driven along the sides of the beds. The alleys are filled with hot dung, and the beds are also covered with the same to the depth of about a foot, that in the alleys being raised to the same height. When the heads appear the dung or litter is removed from the bed and the lights put on; or if boards are used instead of a frame, the bed is protected by shutters formed of laths and lined with straw. Whether lights of glass or straw-shutters be employed, they should be kept on day and night, and in addition the lights must be covered by mats or straw-shutters at night. The hot dung should be renewed, so as to continue level with the top of the frames or boards. During cold weather the covering is increased, and remains on by day as well as night. It is best, however, to have a frame and lights for covering the bed, as by them air and light may be admitted, a little of which is essential if the heads are expected to have a colour and flavour, whether the shoots are required to be blanched or not.

By the foregoing plan much finer heads are produced than when the plants are taken up. One crop will last five or six weeks, but it is well not to calculate on this, but to start a fresh set of beds every three weeks, so as to maintain a supply. The keeping-up of the proper degree of heat is, of course, of the greatest importance as regards the continuance of the bearing, and the linings must, therefore, be well attended to.

When the dung becomes cool the beds may be covered with a few inches of long litter, the frames and litter removed, and

the beds dressed as if they had not been forced. The plants should then have every encouragement, and should not be forced again, nor the heads cut either in the same or following year, for they are eligible for forcing only every other year.

In making the beds at first the alleys should be 2 feet wide, and the beds 4 feet in width, three rows of plants being put in a bed, and the plants 1 foot apart in the rows. The plants should not be forced until the autumn or winter of the fourth year.

Good as the above plan is, it has its drawbacks, the chief of which is, that in digging out the alleys preparatory to filling them with hot dung many of the roots are destroyed or injured. To guard against this some have beds made of brickwork, pigeon-holed, and 4 feet wide, with two-foot alleys between them. The brickwork need not be more than 4½ inches thick, and if carried up a foot above the ground, with a stone coping at top, fastened with iron cramps, it will last a generation. Where the ground is wet this plan answers better than beds, as the brick pits are drier. A drain should be provided in each alley to carry off superfluous water, and 9 inches of stones or brickbats ought to be placed at the bottom of the beds or pits, beneath the soil. The pits are to be filled a little higher than the side walls with one-half good lightish loam, one-fourth rotten manure, and one-fourth leaf mould, adding sand liberally. Put in the plants after they begin to grow (May or June), in three rows to a bed, and 1 foot from plant to plant in the rows. Keep them well supplied with water, and you may find it much safer to move Asparagus after it has begun to grow than when dormant, or in March or April. Fill the alleys with spent dung, leaves, or any vegetable refuse, keeping them level with the brickwork. In four years the beds will be fit for forcing. Two beds may be forced at once by filling in the alleys and all round with hot dung, and covering the beds with hoops and bast mats. A frame of wood 9 inches deep, made to fit on the wall or coping is better, and the straw shutters may be used as covering. In ten or twelve days some heads will appear, then leave the covering open on the south side to give colour, opening every day unless the weather is frosty. Renew the lining when necessary. One crop will last four or five weeks, so that any one may calculate how many beds will be required to supply a family from Christmas until Asparagus come in from the open ground. The beds are only to be forced every other year, so that two sets of beds are necessary. Twelve beds 28 feet long are required to supply a family from Christmas until the Asparagus in the open ground comes in. This is a good plan of forcing, but rather expensive, and even it is liable to injure the roots, as they pass through the pigeon-holes into the alleys: hence in taking the latter out to fill them with hot dung, the roots cannot fail to be injured to some extent.

To have very fine forced Asparagus no plan is equal to that practised at the Royal Gardens, Frogmore. There Asparagus is forced by means of hot water. The beds there are, I think, 7 feet wide, and have spaces 4 feet deep, and about 2 feet wide between them. The sides of the beds or pit are formed of pigeon-holed brickwork. The spaces between the beds are half filled with rich soil, and in the upper half there is a flow and return pipe, the pipes or cavity for them being covered with flags. A close-fitting wooden frame or roof completes the arrangement. This plan answers very well, but were I to have beds heated by hot water, I would reduce their width to 6 feet, and run inch drain-tiles through the bed at 15 inches from the top, or immediately under the cover of the cavity where the hot-water pipes were, so that the heat might the better reach the interior of the beds. Where stone could not be had, wood would do for covering the hot-water pipes.

In forcing, the temperature for the first fortnight may range from 50° to 60°, and be increased in a week to 65°, or never exceeding 70°, affording a little air and light after the shoots appear, to give flavour.

Asparagus may also be forced by taking up the roots and packing them in boxes or beds of earth in a forcing-house. Any house with a temperature of from 60° to 65° will answer well.—G. ABBEY.

PROLIFIC POTATOES.—In your Number of the 6th inst. I see a communication headed, "Growing Early Varieties of the Potato," which mentions the startling fact of forty-two Potatoes being found on one root. I have had this season something of the same kind. A few Potatoes were given to me by a person who described them as good bearers. From about a dozen I

gathered upwards of half a bushel; and from a portion of one which was thrown aside, and after a day two planted, thirty-seven Potatoes were gathered, the majority of which were more than 4 inches long. My soil is heavy and wet, and these Potatoes were not planted till long after the seed I had purchased was planted. I enclose my card.—A CONSTANT READER.

VIOLA CORNUTA.

Mr. BENNETT, of Osberton Hall, has been good enough to send me blooms of his *Viola*. Some of the flowers he sent were very much like mine in point of colour, others were very much darker, some were nearly purple. The differences in their colour Mr. Bennett attributes to the different soils and situations in which the plants are growing. The variety which I grow (and I am confident it is the true one) is the very counterpart both in the shape and colour of the flower, habit of the plant, and form of the foliage, of the figure given in Curtis's "Botanical Magazine," vol. xxi., plate 791. It was introduced to the Royal Gardens at Kew, by Dr. Ortega, in 1776, from Spain. This variety has not changed in the slightest degree in colour, although it has been subjected to great variations in point of soil and temperature. At Oulton Park, in Cheshire, the soil is of a very dry and sandy nature. There the services of the watering-pot are required very soon after a good soaking rain, and last summer was said to be one of the hottest summers known in Cheshire since the year 1827. At Huntroyde the soil is of a most retentive nature, and in this part of Lancashire a colder and more ungenial season was never known than the present; yet there has not been the slightest difference in the colour of the flowers of *Viola cornuta*, neither has there been any difference in its flowering. There has been the same profusion of bloom on the plants here as on those in the dry and sandy soil of Oulton last year; and although we had nearly a constant rain night and day for ten weeks, the plants produced flowers in equal abundance, and were not injured in the slightest degree. They were as beautiful as ever up to the 17th of October, when we had 9° of frost, and for several days after that a regular deluge of rain: this destroyed all the young flower-buds, as well as the greater portion of the open and opening flowers. I am, therefore, much inclined to think that Mr. Bennett does not possess the true variety. My opinion has been very much strengthened in this respect by the arrival of a large hamper of plants, which Mr. Bennett has kindly sent me, and which has come to hand this day. On taking some large patches out of the basket, I immediately placed them by the side of my growing plants, and a decided difference in habit and in the shape of the leaf was at once perceptible. The habit of Mr. Bennett's variety is more procumbent than mine, the foliage is orbicular; whilst the habit of the true variety is nearly erect, and the foliage is of a rather darker green, and more elongated; the edges of the leaves are also more deeply serrated. I do not wish Mr. Bennett to think that I desire to depreciate his variety, neither do I pronounce a decided opinion on it now. I will grow Mr. Bennett's variety side by side with my own, and both shall be subjected to the same treatment; I shall then be able to see if there is any marked difference between the two.

I consider that the purple variety of *Viola cornuta* which Mr. Bennett sent, if it remain true to its character, will be quite as valuable as mine, and for the purpose of readily distinguishing them, I would suggest the name of Purple Queen for his variety, and Mauve Queen for mine. I should be almost inclined to think Mr. Bennett's stock was originally perpetuated from seed, as there appeared to be several shades of colour amongst the flowers which he sent me. I have never yet grown any plants from seed, but have always propagated my stock by cuttings. As there appear to be so many varieties, it is probable that the plant will not come true from seed. Mr. Tillery states in the "Florist and Pomologist" for this month, that he has a blue variety nearly as bright as the Cliveden Blue Pansy. The variety which I saw growing in the Manchester Botanic Gardens was certainly not the same as mine, and Mr. Findlay was so much convinced of this after having seen mine growing under more unfavourable conditions than his own, that he had the whole of his stock destroyed with the exception of a few plants, and replaced it with the variety grown at Huntroyde. In a letter I received from Mr. Tyerman, after his visit here, he stated that he was of opinion that my variety was different from his. I have no doubt that we shall be able to arrive at some definite conclusion next year, for I will send Mr. Bennett a stock of Mauve Queen. Mr. Tyerman is working up a large

stock of his own; but all these, as well as mine, will be grown under similar conditions, when I trust there will be no occasion for future differing amongst the doctors in the case of *Viola cornuta*.—J. WILLS.

As Mr. Thomson, in a recent Number, questions whether *Viola cornuta* will come true from seed, it will be of importance to the public to have the point decided at once. The propagation may be all done out of doors, as the plant is perfectly hardy. It is neat and compact in its habit, and the flowers are of a pleasing colour. It flowers and seeds freely. Having propagated many thousands for bedding-out, and likewise raised quantities from seed, and planted them in juxtaposition, without being able to detect any difference, I planted two rows last December from a seed-bed, and they were this summer the front rows of a ribbon-border upwards of 300 feet long. They were planted about 9 inches apart, and during the past season they made a regular width of 14 inches without any trouble; their height, including flowers, would be nearly 6 inches. I believe the above to be the true habit of the plant in an open situation, although I have had it 12 inches high and flowering equally well, but in a more confined place.

So far as I have been able to observe, this *Viola* does come true from seed. I could not perceive the slightest difference on comparing one flower with another. As to its multiplicity of flowers, I may sum up thus: From all of the many eminent nurserymen and gardeners who have seen it throughout the season, the same answer came, as they gazed along its lines in admiration, "It is really a pretty thing."—J. MILLER, *Worktop Manor Gardens*.

THE ROYAL HORTICULTURAL SOCIETY'S FIRST COUNTRY EXHIBITION.

It seems now finally settled that this Exhibition is to take place next year at Bury St. Edmunds, simultaneously with that of the Royal Agricultural Society. We stated in our last Number that the corporation of Bury had "nobly come forward;" but we find so far from that being the case, that it was the supineness of that corporation which in the first instance induced the Royal Horticultural Society to resolve not to venture into Suffolk, knowing that if they had not a hearty local support they would probably find, according to that county's proverb, "Bury, the high road to Needham." Fortunately there are men in and about Bury who foresee the advantages and pleasure derivable from such an exhibition. They bestirred themselves earnestly, and the successful result was told by Mr. D. T. Fish at a meeting of the local Horticultural Society. Mr. Fish said that he was in a position to state that the Royal Horticultural Society would come to Bury if £500 were guaranteed, a free site provided, and a working Committee appointed to assist; and he thought it would be the business of that meeting to take some steps upon all these matters. The site was secured (he believed one of the best in the kingdom), through the liberality of Mr. Guy. It was just opposite the entrance to the Agricultural Show-field, and was admirably adapted for the purpose. It was not accepted, Mr. Branderth Gibbs, who was connected with both Societies, believed the Royal Agricultural Society would be able to place an acre of their ground at the Royal Horticultural Society's disposal, and Mr. Guy had also another site which he was willing to offer. He believed Mr. Eyles (the Director of the Royal Horticultural Society's exhibitions) highly approved of the site. As to the guarantee fund, he believed it was as good as secured. He held in his hand a paper representing £320, although the *élite* of the neighbourhood had not been asked; Mr. Pettitt was prepared to obtain £120 more, and he believed he might get another £100 in that room if required; and he had had that morning a letter from the High Sheriff to say that if anything were wanted they had only to apply to him. These two questions, therefore, were settled, and the only matter left was the formation of a Committee. He was prepared to move a resolution that every guarantor to the extent of £5 or £10 should be a member of the Committee; and if that question were settled he thought the thing was done, and they would have the Royal Horticultural Society there next year.

The President and Mr. Clay said the statement of Mr. Fish appeared to have removed all difficulty, and under these circumstances the Bury Society would sink their show, and join with the town in doing all they could to assist in carrying out the Royal Horticultural Society's Show.

The Committee were then appointed. Mr. T. W. Cooper was appointed Treasurer, and Mr. Clay was nominated and consented to act as Secretary.

A deputation of the Bury Horticultural Society waited upon the Council of the Royal Horticultural Society, and were cordially received. The *Bury Free Press* thus records the result:—

"The Council ultimately decided in favour of Mr. Guy's site, near the new railway station, in Eastgate Street, subject, however, to the final decision of their Exhibition Director, and the local Committee, who may choose the Vine fields if they think proper. They were highly gratified with the amount of local support that had been promised, and trusted that it might be still extended. They asked for a guarantee of £600, as they might probably have to spend £1200, and agreed, of their own accord, to hand over to the guarantors one-half of the profits. It is hoped that the guarantors will not object to hand over a part or the whole of their share of the profits to our local horticultural society, whose funds, it is well-known, are at rather a low ebb, although it has generously promised £25 to the guarantee fund. This may seem to some like 'counting chickens before they are hatched,' but we confidently anticipate a handsome balance on the right side if the weather is propitious. This great Show will probably last four days. The prize list will be liberal. The preliminary arrangements will be concluded and the schedule of prizes issued as speedily as possible. We cannot conclude without doing justice to the Mayor, Mr. Fish, Mr. Le Butt, and Mr. W. G. Guy, who have interested themselves most laudably in this important matter, while it is owing to the efforts of Mr. Fish especially that the question, when apparently falling through, was successfully revived. To his exertions, too, are due the raising, up to the present time, of a guarantee fund of nearly £800. His reward will be in the success of the enterprise, for none will derive more delight, as none, perhaps, will be better able to appreciate the magnificent floral display in store than our talented neighbour and enthusiastic horticulturist."

Other Suffolk horticultural societies are aiding the effort, and foremost is that of Woodbridge, which has voted a prize of five guineas to be offered for the best stand of twelve Picotees.

MARKET GARDEN STRAWBERRIES.

MR. JOHN PERKINS, of Thornham Gardens, has kindly sent me some seeds of Queen Anne's Melon, and also some seeds of the Hybrid Cashmere Melon. In his letter he says "We often say, on opening our papers, Let us look and see what Mr. Radcliffe has for us to-day." This being so, he will expect to see what I have to say in reference to the matter treated of by "J. T. AND OTHERS."

I apprehend that market gardeners want Strawberries that are of a hardy nature, sure setters, of quick establishment, successional and heavy croppers, that bring their fruit to a saleable size, that are long in bearing, handsome, of good flavour, that are neither impatient of heat nor cold, that will swell without watering, that will last two or three years, and lastly, and above all, that will bear carriage well. Cropping and carriage are two main points.

If this be a right definition, then the best varieties for their purposes are, for early and midseason produce, Sir J. Paxton, Rivers's Eliza, Eclipse, and Empress Eugénie; for late produce, Wonderful, Dr. Hogg, Cockcomb, and Frogmore Late Pine.

I will pit these eight sorts against any other eight sorts that may be named for market gardeners' purposes. The first and five last are very large, and sure and heavy croppers. The second and third are medium-sized, but heavy croppers.

Elton Pine, Eleanor, and Sir C. Napier, are superseded by Wonderful, Dr. Hogg, Cockcomb, and Frogmore Late Pine. They are four famous Strawberries for private gardens, as well as for market gardens.

Now, as regards market-garden cultivation, I suppose it is much the same as garden cultivation, only on a larger scale. The distances of plants must depend on the sorts, the quality and condition of the ground, and the time of plantation. If planted late, they may be put 9, 10, or 12 inches apart, according to the above circumstances, and the following year every other plant may be removed. You may plant Eliza and Wonderful, as late September runners, and every plant of them will fruit. Good sorts, high condition of the ground, early planting, and quick establishment are the main wards of the key of success. Two plants may, during cropping, be pegged

into a thumb-pot from each plant during cropping. As soon as they have taken, they should be removed into the shade and watered. When the land is clear, shave off with a sharp knife the matted roots at the bottom and sides of the plants, then plant firmly and water them.

Dr. Hogg is the best Strawberry that has been raised lately. It is a British Queen that will grow in any kind of land.—W. F. RADCLIFFE, *Okford Fitzpaine*.

I beg to give a brief account of what I have found to be the most profitable method of growing this delicious fruit. I am careful to choose a situation well exposed to sun and light, I give a heavy dressing of horse-manure and some fresh loam, trench 20 inches deep, and tread the ground very firm if of a light nature, but if heavy only slightly. I mark out beds 4 feet wide, with two-foot walks between them, choose strong runners in July or the early part of August, put four rows of plants in each bed, allowing 1 foot between the rows, and the same distance between the plants in the rows; and as soon as they have ceased to grow in the autumn I mulch the beds with half-decayed horse-manure.

With the above treatment I have had very abundant crops of fine fruit in the first season. As soon as the first crop is gathered I remove the two inner rows of each bed, which leaves the plants for the second crop 3 feet between the rows and 1 foot apart in the rows. They are again mulched in the autumn with stable-manure.

After the second crop is taken, every alternate plant in the rows is removed, which leaves them 3 feet by 2 feet apart. They are again heavily manured in the autumn, and after the third crop is gathered are dug down, as I have never found them produce fruit so fine and abundant after the third year.—A CONSTANT READER.

EARLY GRAPE WITHOUT SEEDS.

"The strength of the Grape Vine is not put in requisition in creating the pulp of the berries, but in perfecting the seed."

If this text is correct, what is the use of growing Grapes with many seeds, or any seeds?

There are thousands of people in England who are now erecting cool Grape-houses, ground vineries, and some planting Vines out in the open ground. There are some parts of England very favourable for the latter, chiefly from the nature of the soil—a poor dry soil, with a quick subsoil drainage. This, with some of the largest whole bones inserted 10 inches deep about the Vine for 8 feet, will insure success, provided the Vines are grown and pruned on the Hoare or Thomery plan. Now what is wanted is an early Grape with high flavour, large berries, and large bunches. I ask, Have we such? If not, why do not some of our great Grape-growers try to produce such a Grape without seeds, by crossing those varieties which have no seeds, such as the Sultan and Black Monukka, with some of the best early Grapes with high flavour? If Grapes in cool houses do not progress during the time they are stoning—namely, for about twenty-four days, why not save that time by producing early Grapes without seeds?

Perhaps some of the hothouse-forcing growers will say, "We do not care about early Grapes. Most Grapes are early if we choose to put the steam on and force them;" but there are many thousands who like to grow a few Grapes without forcing. It is for these I plead; they are becoming more numerous than those who possess hothouses—I mean men in businesses of various kinds, and who do not keep a gardener, but love the cultivation of the Vine during their leisure hours. They would not like the expense or trouble of attending to a furnace. Those who employ heat will say, "If you do not like heat you will have no Grapes." Now, I have had in a ground vinery this summer as good Black Hamburg Grapes ripe in the first week in October as most people would wish to see; in spite of rain nearly every day and no sun, the Grapes were perfect in colour, which was not the case in many hothouses, owing to the quantity of rain falling on borders 5 feet deep, and the front ventilators being kept constantly shut to economise heat. The result has been red Grapes without flavour in place of Black Grapes with.—A. T.

P.S.—The following is a scale of the number of seeds which a Black Hamburg Vine grown in a ground vinery in my garden would have had to support if I had allowed the Vine to attempt to ripen all the bunches it bore. The Vine was 12 feet long and the growth of 1865 from the ground, having been cut down

in the autumn of 1864; I counted sixty-two bunches of Grapes on it this spring. The cane is short-jointed, and in some places broke with two laterals together. On these appeared three bunches, on other laterals two, on others one. Now, if the bunches could have been distributed evenly on each side of the cane, they would have hung about 4 inches apart, each bunch thinned to forty berries, and if each berry contained two seeds, the Vine would have had to support 4960 seeds; and if three seeds were in each berry, which I consider about the average, it would have had to have supported the large number of 7440 seeds. That to which I want to draw the attention of yourself and all those who raise Vines from seed is, that much time might be saved by producing early Grapes without seeds.

Length of Vine.	Number of bunches.	Number of berries on each bunch.	Number of seeds in each berry.	Total number of berries.	Total number of seeds to support.
13 feet	63	40	2	2480	4960
Ditto	63	40	3	2480	7440

HOME GROWTHS.

A most interesting exhibition of what may be collectively termed home growths was produced at the Royal Horticultural Gardens, South Kensington, on Saturday week. The collection was sent by Mr. Robert Fenn, who lives with the Rev. G. W. St. John, at the Rectory, Woodstock, for which collection, besides ten first-class certificates for the individual subjects, we believe it is intended to grant one of the Society's silver-gilt medals.

First in importance were some thirty sorts of Potatoes grown by the exhibitor in the Rectory garden on the ridge-and-trench system, as detailed in Nos. 163 and 164 of this Journal—all clean healthy tubers, and most creditable examples of cultivation. A fact, however, in connection with them, which is undoubtedly of greater public interest, is that they constitute a selection from one hundred varieties after thirty years' experience. As such, therefore, it will be useful to give their names and the brief descriptive remarks which Mr. Fenn appended on the labels.

The varieties were divided into Frame, Garden, and Farm Potatoes, for each of which divisions a first-class certificate was awarded, and were as follow:—

FRAME.

Shutford Seedling.—First early, short glazed foliage. Suitable for keeping and forcing. Excellent flavour.

Early Ten-week (Round).—The old Early Betty? Perhaps the earliest and best of all for frame work. Indebted for the kind to Mr. Rivers.

Hogg's Coldstream (Round).—First early. Most suitable as an only kind for a small garden. Flavour first-rate.

White-blossom Ash-leaf.—Good for production in pots and boxes. Throws fine early tubers.

Webb's Telegraph.—Produces fine early tubers, though coarse, where the ground is good.

Mitchell's Early Albion Kidney.—Small glazed foliage. Suitable for forcing. Good-flavoured. Soon arrives at firmness.

Premier.—A new seedling. A great acquisition; without doubt the best of any early sort as regards bulk of crop. A first-class early tuber, arriving at its greatest perfection in a light soil. Very handsome, medium foliage. Indebted for the kind to Mr. J. Gardner, Aston Hall, near Birmingham.

GARDEN.

Daintree's Seedling (Round).—Second early. A first-class flesh, and a first-class cropper.

Rivers's Royal Ashleaf.—An early second early. An excellent Potato to dig from the soil during the summer. Yellowish flesh, of good flavour. A bountiful cropper. Fine foliage. Taken up very late, and the kind withstood the disease very well.

Haigh's Kidney.—Spare foliage. Not a large cropper, but a firm nourishing Potato. Second early.

Early Emperor (Round).—Super-tuberated last year, spoiling the crop. This year it almost succumbed to the disease. A fine Potato, nevertheless, in a good season, and more suitable, perhaps, for field than for garden culture.

Fortyfold (Round).—Excellent for mashing. Second early.

Fenn's Onwards (Round).—A cross between Jackson's Kidney and the Fluke. So far as my experience with this sort has

gone I consider this to be one of the best round Potatoes in cultivation. A good cropper and keeper, white flesh, with a fine flavour. A healthy, dark, medium foliage.

Russet Kidney.—A new seedling of the same parentage as Fenn's Onwards. A peculiar tuber, with peculiarly good keeping qualities. It has a firm mealy white flesh, and is not fit for cooking till the May after lifting. A tolerable cropper, having a most diminutive Fluke foliage.

Pebble White, or *Huntingdonshire Late Kidney*.—An excellent long keeper.

Beehive (Round).—A new seedling from the Fluke. A very nice rather early kind, most suitable to dig as wanted in the early summer months. As regards colour and flavour it is the same as Wheeler's Milky White. Medium dark foliage.

FARM.

Sutton's Finest Regent (Round).—The finest-flavoured, perhaps, of all the Regents.

Cheshire Pink Eye (Round).—An excellent field Potato. Escaped the disease this year. First-class for the table.

York Regent (Round).—A good farm Potato, well suited for market purposes.

Walker's Regent (Round).—A Scotch second early Potato. An excellent sort, suitable for a large household.

Freebearer.—A good farm Potato, very substantial, and of fine flavour. Immense toppler and cropper.

Daintree's New Seedling.—A first-rate household Potato, a good market kind, and excellent for field culture on land in tolerable heart.

Prolific (Round).—An excellent field Potato, good for the household. Flesh of first-class quality.

Negro.—A good cattle Potato, the best of its class. An immense cropper and toppler. A good tuber for a poor man.

White Farmer.—A first-class field Potato, good for household purposes.

Fluke.—The original kind, good for the household, and good for the market. A late Potato. Suitable for field culture. Very scarce, many spurious kinds are sold for it.

Gryffe Castle Seedling (Round).—A Scotch Regent. A second early, suitable for a large household. Flavour excellent.

British Queen.—Flesh first-rate. Foliage coarse. Most suitable for planting on poor soil.

It may be useful to add that Mr. Fenn considers *Premier*, *Shutford Seedling*, *Early Ten-week*, and *Hogg's Coldstream* the best for frame cultivation, and the last is, besides, a first-rate kind for general use. For the garden he gives the preference to Fenn's Onwards, Fortyfold, Rivers's Royal Ashleaf, the Old Lapstone, Daintree's New Seedling, and Pebble White; and for the farm, to Fluke, British Queen, Gryffe Castle Seedling, Walker's Regent, Sutton's Finest Regent, and Cheshire Pink.

Another interesting portion of Mr. Fenn's exhibition was entitled, "A Ten-years' Study on the Manufacture of English Grape, Gooseberry, and Rhubarb Family Wines, without any addition of spirituous liquors, published in THE JOURNAL OF HORTICULTURE, Nos. 589 and 592, Old Series, and 235 and 236, New Series," and accompanied by examples of the system of Grape-growing. One of these was a photograph of the kitchen garden and south-east front of the Rectory, showing the system of training the Vines for wine-making, and part of the apiary; another was the representation of an extemporised vinery, glass being substituted for tiles on the roof of a lean-to shed. In this vinery the Esperione Grape ripens perfectly without artificial heat, and the structure is made to do duty as a cool greenhouse in winter. For this purpose it is heated on the system described in No. 239. Esperione Grapes ripened in this structure for dessert use received a first-class certificate, and similar awards were made for Fenn's Grape glasses, described in a former volume; and for the mode of training and ripening Grapes against open walls for wine-making, illustrated by a model of a portion of the wall, with Vines and bunches of Royal Muscadine and Esperione Grapes. For samples of Royal Muscadine and Esperione Grape wine, first-class certificates were also awarded, the Judges' opinion of the former being, "A grand wine, sound and perfectly vinous;" and of the latter, "A very good wine, fine colour, and a good bouquet, rather sweet, which it will lose by keeping. Will be an excellent wine when aged." Of Paramp wine, the verdict "excellent" was also recorded.

In addition to the above we noticed a collection of honey, wax, &c., obtained on Fenn's depriving system (see No. 83), without destroying the bees; and first-class certificates were awarded for run honey, and for Fenn's breakfast honey glass.

ROYAL HORTICULTURAL SOCIETY.

WEEKLY SHOW, November 17th.—Mr. W. Young, gardener to R. Barclay, Esq., Highgate, sent a collection of plants, to which an extra prize was awarded. Mr. W. Bartlett, Shaftesbury Road, Hammersmith, also received an extra prize for a collection of plants. An interesting collection of plants from the Society's garden, Chiswick, was exhibited, it consisted of Primulas, Ericas, *Justicia speciosa*, *Bouvardia* Hogarth, &c. A box of cut flowers came from Mr. B. Brown, gardener to R. H. Wyatt, Esq., Wandsworth Lodge, Upper Tooting; and Mr. F. C. Dickens, Flood Street, Chelsea, exhibited two stands of cut Chrysanthemums. A collection of vegetables was sent by Mr. C. Dixon, gardener to Lady Holland, Holland Park, Kensington, to whom was awarded the first prize; also by Mr. W. Young, Highgate, who obtained the second prize; and by Mr. B. Brown, gardener to R. H. Wyatt, Esq., to whom was awarded the third prize. A collection of kitchen and dessert Apples was shown by Mr. Young, and a first-class certificate was awarded. A miscellaneous collection of fruit came from Mr. B. Brown, who received a first-class certificate.

GUILDHALL FLOWER AND FRUIT SHOW.

The United Horticultural Society held last week a Show in the Guildhall of the City of London, in aid of the benevolent fund for the assistance of gardeners; and a bazaar took place at the same time in aid of the Albert Orphan Asylum, established at Collingwood Court, near Bagshot. The exhibition and bazaar were opened on Tuesday last by His Royal Highness the Duke of Edinburgh.

The plants were chiefly arranged in the body of the hall in the intervals between the stalls of the bazaar, the cut blooms along the centre, and the whole formed a very attractive display, of which Chrysanthemums constituted the principal part. In the middle of the hall, facing the entrance, J. Crute, Esq., of Holloway, had arranged a floral design, consisting of a *Dicksonia* in the centre, surrounded by bands of large-flowering and Pompon Chrysanthemums, *Iresine Herbstii*, *Centaurea argentea*, and Primulas, the whole having a very neat appearance. Near this a large number of beautifully-arranged hand-bouquets, shown by Mr. Howard, gardener to J. Brande, Esq., Balham, attracted much attention; there was also a fine bouquet from Mr. Forsyth, gardener to Baron Rothschild, at Gunnersbury. In dinner-table decorations Mr. Howard took the lead.

In the plant department Mr. Tanton, of the Epsom Nursery, had a very tastefully-arranged collection, in which was one of the finest plants of *Cyperus alternifolius variegatus* which we remember to have seen. Fine-foliaged plants and Ferns were furnished in considerable numbers by Mr. Williams, of Holloway; Mr. Rhodes; Mr. Wheeler, gardener to J. Philpott, Esq., Stamford Hill; Mr. Wilson, gardener to W. Marshall, Esq., Enfield; Mr. Penny, gardener to H. H. Gibbs, Esq., Regent's Park; and Mr. Page, gardener to W. Leaf, Esq., Mr. Parsons, gardener to R. Attenborough, Esq., Acton Green, contributed Lycopods; Mr. Wilson, gardener to W. Marshall, Esq., a fine case of *Trichomanes radicans*; and Mrs. Glendinning & Sons, Anthuriums, *Cyanophyllum magnificum*, *Dracenas*, &c., well-grown *Anectochila*, and *Aucuba japonica* in fruit. Mr. Crute also had a specimen of the latter plant with fifty berries, the result of fertilisation with pollen which had been kept two months in tinfoil. Messrs. E. G. Henderson sent a circle of their elegant variegated Grass *Poa trivialis argentea elegans*, which had a fine appearance, set off as it was with a *Dracena* in the centre; and cut blooms of Orchids were contributed by Mr. Wilson, gardener to W. Marshall, Esq., and others.

Messrs. Carter & Co., had a roomful of plant-stands, Fern-cases, and similar subjects, elegant in design and beautifully set out, also a case of dried Everlastings; whilst from Messrs. Rother came several very neat window-boxes.

Chrysanthemums have been so fully noticed that our remarks on them will be brief. Mr. Forsyth exhibited several groups, comprising fine specimens of large-flowering varieties and Pompons, as well as pyramids and standards of the latter in fine bloom; and from Mr. Crute came also a large group, in which were fine examples of Rev. Joshua Dix, Golden Beverley, Princess of Wales, Queen of England, and John Salter. Mr. Baker also exhibited a good group. Mr. George, gardener to Miss Nicholson, had a piece of plate for beautifully bloomed specimens of Prince of Wales, Lady Hardinge, Annie Salter, Little Harry, Alma, Christine, Golden Hermione, and others; and from the same exhibitor came a magnificent specimen of Golden Christine.

Of cut blooms many excellent stands were shown. Two promising new varieties—viz., Mrs. Heale and White Princess, respectively from Mr. Heale, of Upper Clapton, and Messrs. E. G. Henderson, received certificates.

Fruit occupied a room by itself, and included some very good examples, foremost amongst which were magnificent Smooth-leaved Cayenne and Charlotte Rothschild Pine Apples, from Mr. Forsyth, gardener to Baron Rothschild. Mr. Jefferson, gardener to W. Garnside, Esq., Warknop, had a very fine Blood Pine of 7 lbs. weight; Mr. Page, gardener to W. Leaf, Esq., excellent Smooth Cayennes; and Mr. Laing, gardener to P. W. Flowers, Esq., a fine Queen. Of Grapes, a collection from Messrs. Lane, of Great Berkhampstead,

made a fine display, consisting of heavy bunches of Calabrian Raisin, Trentham Black, Chavoush, Alicante, West's St. Peter's, Barbarossa, Black Hamburg, Muscat Hamburg, Buckland Sweetwater, Lady Downe's, Forster's White Seedling, &c. Messrs. Lane also exhibited pot Vines, one of which, a Black Alicante, was loaded with splendid bunches. Muscat of Alexandria from Mr. Meads, gardener to Raikes Currie Esq., Minley Manor, constituted another feature of attraction; the three bunches weighed altogether 12 lbs. 2 ozs., and were perfect in form and ripeness. Mr. Tillery, Welbeck, exhibited very good examples of Barbarossa, and St. Peter's, and good Grapes were also shown by Mr. Laing. Apples and Pears were numerous shown.

There were also several plans of grounds laid out by Mr. Newton, of 74, Oxford Terrace, Hyde Park.

CHRYSANTHEMUMS.

MR. SALTER'S, HAMMERSMITH.

THE display of Chrysanthemums at Mr. Salter's, Versailles Nursery, Hammersmith, is this year fully equal to that of any previous season, if not superior, though, owing to the cool damp autumn, a little later than usual. The show-house is arranged with equal taste; the assortment is as good, the blooms as fine, the novelties as interesting as ever. That Mr. Salter's collection is the richest in the country is well known; and it is equally so that it is to him that growers chiefly look for a supply of the new varieties which they produce in such perfection at the autumn exhibitions. To satisfy this demand for novelty must be no easy task, for out of many hundreds of seedlings which are annually raised at the Versailles Nursery, the number which Mr. Salter retains as worthy of being sent out is very small, not amounting in most years to more than 1 per cent.; and although among the condemned there are many very passable flowers, the rigid exclusion of all that are doubtful or bad bears its fruit in the confidence with which those placed on the list are regarded.

Of the seedlings to be sent out in 1867 Lady Talfourd was especially noticeable as a beautifully formed deep rosy lilac flower, excellent in habit, and altogether likely to prove a great acquisition. Gold of Ophir, a deep golden yellow, with reddish brown tips, promises to make a fine specimen plant, as the blooms stand well up; and the same may be said of Faust, crimson chestnut, and beautifully incurved. It and Yolande, blush with a yellowish centre, are likely to be fine show flowers. Purpurea elegans, a rich and very dark crimson, is new in colour, and, though rather small, is so splendid that it can hardly fail to become a favourite. Lady Godiva, pure white, was remarkable for its great breadth of "petal," as it is phrased; whilst Dr. Lindley, clear amber, Ossian, deep rose, and Isis, yellow and brown, though scarcely far enough advanced when we saw them, promise to be fine; and Mr. Salter considers that Countess of Warwick, ivory white, and very full of florets, will be a great acquisition. Rosa Mutabilis, blush veined with rose, is a very pretty variety in the way of Pink Pearl, but to all appearance better. Madonna Mary, white, with a sulphur centre, is also a fine flower. Besides the foregoing there were several other seedlings which were not sufficiently advanced, but some of which Mr. Salter considers will prove desirable additions to the existing varieties.

Of seedlings of last year we noticed Miss Margaret, a fine white Anemone, sent out this spring; Gloria Mundi, a beautiful yellow variety, and a great improvement on Jardin des Plantes; John Salter; Sylvia; Mr. Gladstone, of a fine chestnut red colour; St. Columba, red inside, with a golden back, but not quite out; Crimson Velvet, of a beautiful bright colour; Compactum, a pretty very compact silvery rose; Hereward and Golden Beverley, both fine varieties; Countess of Granville, white; and Iona, a pretty citron yellow.

Of older varieties there are finely-bloomed plants of Prince of Wales, Prince Alfred, Rifleman, Florence Nightingale, Little Pet, Luther, Eve, Ranunculus, Triomphe du Nord, a showy conservatory variety, Invincible, white, another of same kind, Venus, Virgin Queen, Antonelli, Rev. Joshua Dix, Lord Ranelagh, Princess of Wales, Mr. Wynnes, Beverley, Sam Slick, Aurea Multiflora, St. Patrick, Cleopatra, Golden Dr. Brook, Abbé Passaglia, Ino, Duc de Conegliano, a showy tasselled variety for conservatories, Little Harry, Mr. Brunlees, Duchess of Wellington, &c.

Of seedling Pompons only five were sufficiently advanced. These were—Little Croole, a beautifully-formed reddish orange button, and very free; Amy, clear yellow; Judy, accidentally disbudded like a large-flowering variety, but as far as could be judged under these circumstances, a very desirable yellow kind;

Little Kate, blush and rosy fawn, very full, somewhat in the style of Madame Fould; and Anemone Aglaia, blush with a high white centre. Stella, with a golden centre and rosy purple guard petals, is also a very promising kind. Besides the above there were several other seedlings coming on.

The arrangement of the show-house is very much the same as last year in its general effect, although there is some difference in the materials employed. The small mound of rock-work near the entrance is densely carpeted with *Saxifraga hypnoides* minor, and a kind of Thyme, equally pretty and well adapted for the purpose, with here and there plants of *Sedum glaucum* and *pulehellum*, and variegated *Saxifragas*.

In the beds, besides *Centaurea argentea* and a very compact variety of *Cineraria maritima*, a nearly hardy and very pretty variety of *Cypripedium* is freely introduced, and with excellent effect. An arch a little way from the door is a little curious, being formed of a portion of a branch of *Araucaria excelsa*, which had been broken off, and which Mr. Alfred Salter had struck. This, whilst continuing to elongate, has maintained its branch-like character, never forming a head; and as the lateral branchlets are pendulous, it forms a graceful arch. The circumstance is not extraordinary, but the appearance of the plant is so much changed that any one not aware of the fact might suppose that it was not an *Araucaria* at all, and Mr. Salter, acting on the hint, has propagated a number of similar plants.

Besides *Chrysanthemums*, Mr. Salter has a fine collection of *Zonale Pelargoniums*, as well as of variegated plants. Among the latter is a prettily variegated *Arum italicum*, which is very ornamental in the borders, especially in winter; and *Artemisia argentea*, with finely-cut silvery foliage, is another pretty hardy plant. *Sansevieria japonica carnea*, bearing a considerable resemblance to the hardy variegated Bamboo, is also very ornamental, and said to be hardy. Noticeable among the Ivies, of which there are several finely variegated kinds, were the variegated *Hedera algeriensis* and *rhomboidea variegata*.

Out of doors the borders are gay with *Chrysanthemums*, both large-flowering and Pompon varieties; and one border about 100 yards in length, is particularly effective. The Pampas Grass, and the fine rose-coloured variety of it raised at this nursery, are likewise very effective. We also noticed *Lavandula vera*, with ornamental broad white foliage.

MR. FORSYTH'S, STOKE NEWINGTON ROAD.

MR. FORSYTH has a well-earned reputation for the magnificent specimen plants which he exhibits; and though some of his best were away at the Stoke Newington Show at the time of our visit, his houses, and his show-house especially, were very gay. In the latter there was a fine bank, in which was massed a large collection of the best varieties, whilst on the shelves were several very fine specimens of both Pompon and large-flowering kinds. That the whole were well grown and well bloomed may be readily inferred from the position which Mr. Forsyth has taken as a cultivator of the plant, and it is scarcely necessary to add that the collection comprised all the best varieties. Among the most recent, Prince of Wales, *Ranunculus*, Venus, Virgin Queen, Sam Weller, Princess Marguerite, Imogene, King of Denmark, Lady Carey, Attraction, Prince of Anemones, and *Aurea multiflora*, were very fine, and most of the older kinds were also in beautiful bloom. Among Pompoms, Golden Aurora and White Trevenna were very fine; the latter Mr. Forsyth intends to grow extensively for autumn bedding, as it is very free-flowering. There was also a promising seedling Pompon called James Forsyth, with large orange crimson flowers.

In a new span-roofed house 130 feet in length, were five specimens of Bob, Lilac Cedo Nulli, Mrs. Dix, Julie Lagravere, Lizzie Holmes, and other kinds, besides a very extensive stock of bedding *Pelargoniums*, including a large number of Mrs. Pollock.

THE PEACH SEASON OF 1886.

I VISITED some time ago the greenhouse of a gentleman well known for his scientific attainments. This house had been remodelled, and really was much improved. Light was abundant, ventilation very efficient, there was considerable accommodation for plants, while the apparatus for watering was of the newest construction. I noticed, too, that the south-west angle of the house was fitted with extra-thick sheets of corrugated glass, while the whole front sloped backwards at a very desirable angle, so as to throw off the rush of an equino-

tial gale. This last being a matter of considerable importance in our stormy isles, it struck me as being well calculated to effect such a purpose, and I complimented the owner on his skill and forethought. What was my surprise and amusement when he answered me, "Look at that adjacent wall; along it nightly legions of cats of a cyclonic character rush fiercely down the slope of my greenhouse. My dog chivies them, and the whole together used formerly to disappear through the ordinary glass into the house. Now, by means of this thick and corrugated glass they all retain their footing until they reach the front slope, the angle of which is nicely adjusted to let them all down together easy to the border."

Now this "letting down easy" is all that a wall-wisher can honestly say of the Peach season of this year. What with whistling blasts of cold air and a cloudy sky, pouring down for entire months on us an unceasing stream, nothing in the open ground could be expected. Of course the crop in orchard-houses has been preserved from such a downpour, but the absence of sun has produced a sad lack of colour and flavour—not so much so, however, as might have been expected; indeed some early sorts have been very good indeed.

The insect tribe has also been wonderfully active. In the open air our trees have had them all, or nearly so; but there being little fruit, the trees have not been materially weakened, and the buds for next season look promising.

I have not remarked any unripe growth, rather the contrary; and have left numerous chances of new wood shoots, so as to secure leaves in plenty. In close-pruning we always look to this point, and as to over-luxuriant wood or root-pruning of Peach trees, we never dream of such things; but we encourage growth in leading branches quite freely. Our leading branches are merely slightly balanced; the shortening of these is quite needless as long as the summer shoots have been regularly stopped. All this wood ripens; no more than what can be used is retained, and the sap is concentrated in the bases of the shoots, where it most readily accumulates by reason of the natural deviation of the vessels of the medullary canal. No laying-in of long unripe shoots; no disbudding; no shortening-in of leaders beyond equalising them; no tedious ties; little to suppress at the winter regulation. You will not have such wide-spreading trees, but you will plant more of them, and so have more sorts. Out of doors almost any free-growing shape will succeed; but on the back wall of an orchard-house the grower who wishes to have fine fruit and a succession of it, will always prefer the diagonal cordon.

In the borders our spiral cordons (five trees at 15 inches interval, coiled round five uprights), have been the admiration of many, including some leading nurserymen; but that it would have shaded the precious back wall of diagonals, the whole border would have been planted in this manner. As it is, we alternate them with good bushy standards. Let me, at this season, recommend these spirals to amateurs. No doubt these trees will supersede most others for borders; and having originated their use here for orchard-houses, I shall be happy to assist others by my experience. Perhaps they might be further described at a future time if thought necessary.

The red spider has been very annoying, and it required some perseverance to keep it under. Soft soap and sulphur, or similar thick and nasty combinations, are simply useless. The red spider is not destroyable by sulphur, except in the form of a dangerous vapour; and as to gluing it in for a time only, how can syringing effect this properly? and why obstruct the stomates of the leaves, especially underneath? Syringing with cold water violently acts mechanically, and the insects fall on the border, for they are not drowned. The red spider lives a long time when immersed. Many experiments have been made in our house this season with new and strong vegetable poisons, but not with good results. Some are too expensive, others destroy the foliage, most fail to kill the red spider; in short, it remains for some clever chemist to discover an efficacious remedy. Young and very vigorous trees are, perhaps, tolerably safe; but trees weakened by heavy crops are never secure. Ventilation alone is no safeguard, for trees in the open air were the worst attacked this year. Neither does a heavy rainfall wash away the eggs or webs which lie under the leaves near the midrib.

The air was so charged with humidity, and the temperature at times so lowered, that any careless ventilation induced mildew.

Aphides were, as usual, in plenty; but these are so easily destroyed (by tobacco smoke is most efficacious), as not to interfere much with the health of the trees.

As to the fruit itself, the periods of ripening were not much altered, nor was the general advance in time delayed. Though the luminous rays did not all penetrate the clouds, the heat and actinic rays did so. The previous summer, and our long and warm autumn especially, had stored the earth heat in abundance, and thus plenty of growth had been made during the period when the sun shone in the early summer, and the wood had coloured fairly before the disastrous drenching of the later season. For weeks here we hardly saw the sun, still, as was said before, the ripening and colouring of the fruit went on, much to our surprise. Flavour, of course, is not to be expected, and yet our early and late Grapes were extremely fine; but other things, such as bedding plants, have been completely washed out long ago.

An intelligent lady from Lancashire has sent me a list of the periods of ripening of some fruits in her orchard-houses; I only wish we had more of these lists, and this shows how ladies could manage orchard-houses if they wished.

Early York Peach in Lancashire was ripe as early as the 20th of July—a most encouraging fact. Here the same Peach has ripened, during five years, from the 4th to the 28th of July, and this year on the 10th. From this fact we gather that Early York is an excellent variety, safe to ripen in July anywhere in England, Ireland, and even Scotland; and also that in late climates the early sorts should be most largely planted. They are sure to ripen at some time or other, but later sorts are not.

Early Victoria, a good and very early sort, ripened here on the 17th of July. In Lancashire, however, it took up to August 10th to mature. A Bec here averages the last week of July. In Lancashire it ripened on the 12th of August, and Royal George as well. On the 17th Grosse Mignonne ripened, being about the date it ripens here in the open air, Barrington as early as the 20th, and Walburton Admirable on the 25th. One is tempted to think the last is not truly named, so early is this date.

In this way the house was cleared by August, leaving nothing for September, which arrangement might have been improved by adding Salway, Comet, and Late Admirable. Barrington ripened thus in Lancashire as early as it does here in some friends' houses. Princess of Wales, a remarkably fine Peach, ripened in this lady's house as early as it does in my own.

Now, the situation and general structure of this Lancashire house must be good, also the management; and, let me repeat it, no doubt orchard-houses under female management will do very well indeed.

Of newer sorts in our own houses I note the following:—

Early Silver (one of Rivers's seedlings), ripe last year on the 2nd of August, and this year on the 25th of July, will eventually advance to the middle of the month, and being a remarkably delicate and beautiful, large, pale, juicy Peach, it is extremely valuable.

Souvenir de Java is a new sort, very early, of high colour and medium size, but too new to report on.

Exquisite was very fine again this year; splendid for the table—so showy. Ripens here in the last week of August. Will any one tell me when it ripens with him?

Rivers's Victoria Nectarine. Of this splendid and delicious Nectarine there is but one opinion: It is immense, highly coloured, handsome, racy, and melting—altogether the finest Nectarine I ever saw. It was ripe here in the third week of August. Reports on the date of ripening, especially in orchard-houses, would be really useful. The time has come when such things require to be more known.

Clémence Isaire, a new Peach of very large size, freestone, of a rich orange colour, very showy, juicy, with the usual Apriote flavour, will be a good sort, I am sure. Ripe September 5th for the first time here.

Early Colombia, a new Georgian Peach. A remarkable variety. Dark greenish skin, rough, high, yellow nipple, dark maroon flesh near the stone only, having an Apriote flavour, but somewhat bitter. The fruit looks like a large, hairy Reine Claude de Bavay Plum. Wood of a dark purple.

The Comet Peach was ripe here about the end of September. It is a large, juicy, and very fine sort.

Our October and November Peaches must be left out this season; nothing can be said in their favour. As to November Peaches in general, these must be discarded as unprofitable. Even October sorts require careful culture. As I said before, orchard-houses are best adapted for bringing early sorts out, and making the most of their qualities.

Many sorts still much vaunted in trade catalogues will not

bear the test of comparison. Peach-culture is ever changing, and the change is in the direction of early sorts; therefore those buyers who are not aware of this fact may find themselves greatly the losers by adhering to the obsolete sorts. Here such sorts as Murrey, Early Newton, and Hardwicke Seedling Nectarines, and Chancellor, Desse Tardive, Téton de Venus, Bourdine, Early Anne, Acton Scot, and Walburton Admirable Peaches, all of which have a place in a catalogue before me, are really second-rate. Some of Rivers's new seedlings (to ripen in July), will throw the early ones into the shade; and as to the old and later sorts, they are either shy bearers or very inferior in quality. It would not be right, in a conscientious review of the season, to omit stating this.

For my own part I am somewhat prejudiced in favour of more variety, believing that a dessert table looks all the better for it. Clingstone Peaches are a branch of themselves. Only the true connoisseur can relish these. The yellow Peaches are strangely neglected at present; but they are a gorgeous and valuable class. Of these, Admirable Jaune, Clémence Isaire, Exquisite, Canary, Comet, and Early Crawford are good specimens. Of Clingstones we exhibited six, weighing nearly 6½ lbs., and well coloured. These Peaches were as hard as an Apple, but of delicate aroma, and full of juice; still, few here liked them. If the public taste has yet to be educated even in such matters, it must be allowed that it is making rapid advances. Our visitors show a surprising amount of acquaintance of late years, and it would not be prudent to overlook this fact.—TH. C. BRÉHAUT.

WORK FOR THE WEEK.

KITCHEN GARDEN.

WHEELING out manures, composts, earth, mud, &c., draining, trenching, making new walks, and repairing old ones, are amongst the principal operations at the present season in this department. Always make choice of suitable weather for performing each with a view to cleanliness and good order. Asparagus, ground may now be prepared for new plantations, also for Sea-kale and Rhubarb; and if these are what may be termed permanent crops, every care ought to be bestowed on the thorough preparation of the soil for them. The staple ought in all cases to be 2½ feet deep, and thoroughly trenched, manured, pulverised, and last, though not least, drained; and where the soil is comparatively exhausted in some of its essential qualities, and nearly all old garden soil is, there ought to be an addition of new loam; for success in Asparagus-growing this is imperative. Broccoli, take care to pot or lay in a sheltered situation a good store of Cape Cauliflower, Broccoli, and Grange's White. Celery, it must be carefully earthed up in suitable weather, and a supply of Endive must be blanched. Jerusalem Artichokes keep well and in good condition for use in the ground, and can be taken up as required; to keep the frost from preventing the operation, the stalks may now be cut off within 5 or 6 inches of the surface of the soil, and laid between the rows; or a quantity of leaves, mulch, or vegetable refuse may be wheeled amongst them to cover the ground. Take advantage of dry weather for securing Carrots, Beet, &c., and if not already done, let the ground they occupied be trenched; and where the soil is of clay or strong loam let it be ridged, that the frost and air may act on as large a surface of it as possible. Parsnips, the best plan that we have found is to let them remain in the ground, and trench them out fresh as required for use. At this season of the year a good coating of manure or mulch is wheeled on, and spread over them, so that if frost set in it may always be easy to take them up. Clear away dead leaves from all growing crops, and make good blanks in them as they occur.

FRUIT GARDEN.

Continue to prepare for fruit-tree planting by draining, trenching, and pulverising the soil, and after planting, stake, tie, and mulch trees securely in good time. Clear away all dead leaves from the wall trees, and remove the green fruit from the Figs. The established strong-growing fruit trees that are tardy of producing fruit must be root-pruned. This must be performed according to circumstances; if the trees are planted too deeply, or the soil has been raised above or about them since planting, by all means fork the roots out carefully, and place them again with care on the surface, spreading them out judiciously, and then mulch them. If trees to be operated upon are planted high and dry, fork about them at a reasonable distance, and prune back the main or strongest

roots as you discover them. Raspberry plantations may be cleared of the dead canes and superfluous wood; the suckers should be taken off, and, where required, the strongest should be at once planted for succession.

FLOWER GARDEN.

The weather is still favourable for executing alterations, and where these are in hand they should be prosecuted with the greatest possible dispatch, taking advantage of frosty mornings for wheeling. Planting, or the removal of large trees and shrubs, cannot be finished too soon, for it is of the utmost importance that the plants should be afforded some chance of making fresh roots before the trying winds of March. Protect the roots of Tea Roses with a coating of wood ashes or moss. Fuchsias may be preserved in the same way. Regularly clear away fallen leaves from walks and lawns. In the disposal of the various shrubs, let their natural and peculiar dispositions and character be considered—thus, the Rhododendron is seen with the greatest advantage at the base of a lofty tree, the dwarf evergreens of the mountains on a hill side, while low and swampy ground should be characterised by such plants as *Heracleum giganteum* and some of the aquatic grasses and reeds. Amongst tall trees the common Honeysuckle, wild Hop, and Bramble may be introduced with excellent effect, or supported by stakes. Some excellent effects may be managed by these creepers. Tulips should now be all planted; every day that they are out of the ground is detrimental to their future bloom. The amateur should by no means add to his stock of Carnations and Picotees now, better defer doing so till the spring. Late transplanting is a serious evil, which by all means should be avoided, and, in fact, all moving of florist's flowers, Pansies, Pinks, &c., had better be deferred till spring. When the beauty of Dahlias has been destroyed, cut off the stems about a foot from the tubers, and turn them upside down, so that the sap may freely exude. Allow them to become quite dry, and then store them in a moderately dry place secure from frost.

GREENHOUSE AND CONSERVATORY.

Thorough cleanliness and a systematic way of carrying out matters are now of the utmost importance in all plant-houses; above all things we would again say, By all means avoid crowding plants. Such is sure to prevent a high state of cultivation. It matters not how good the potting may have been or how careful the watering, those who will huddle their plants together must be content with leggy stock, and that which is even worse, with insects. Chrysanthemums in most instances will be the chief feature of attraction in the conservatory at present, and where they are largely grown, which they should be wherever there is a demand for flowers at this season, they make a fine display, and are worth every necessary attention to preserve them in beauty as long as possible. They are very impatient of a close, rather warm atmosphere, and if the house contains plants requiring this treatment, the Chrysanthemums should as far as practicable be placed in the coolest part, where air can be given freely on every favourable opportunity; for unless they can be rather freely exposed to air, their foliage will be soon attacked and disfigured by mildew. Attend also to keeping them well watered at the root.

STOVE.

The remarks in the foregoing section are equally applicable here—nay, more so. Where more heat and moisture are applied there will, of course, be a greater tendency to "draw." Let the resting section of Orchids settle quietly down towards their habitual repose by withholding water at the root, by diminishing the amount of atmospheric moisture, and by permitting a much more liberal ventilation than in the growing season. Plants of this kind enjoy a very considerable amount of light, and although they may be kept under the shade of Vines or other things for a few weeks during the growing season, like a seed during germination, yet the due amount of their secretions must be ultimately encouraged and perfected by means of an increased amount of light.

PITS AND FRAMES.

All store plants intended to be wintered in these structures should now be finally arranged as soon as possible. Those who have taken the calenderial advice on this head in due time will now find themselves in possession of a sturdy stock thoroughly established. A dry atmosphere, with a considerable amount of ventilation day and night, is requisite. An observant person may take a hint from the Verbenas which remain out in the borders. How often do we see these green throughout a great part of the winter. They are well established, however,

at the root, and would infinitely prefer a moderate dry frost a murky and confined atmosphere.—W. KEANE.

DOINGS OF THE LAST WEEK.

THE work has been to a great extent a continuation of that alluded to last week, and has more particularly consisted in packing away old Pelargoniums, shifting Cinerarias into larger pots, taking bedding plants under the protection of houses where fire heat can be occasionally used, pruning the second vinery, and washing the Vines, glass, woodwork, and stages, so as to take into the house lots of plants as yet standing out in cold frames, earth pits, &c., with the usual complement of mowing and cleaning.

KITCHEN GARDEN.

The chief work has been digging and trenching when dry; forking over the ground between the rows of Sea-kale, and covering the crowns with burnt earth and charred refuse, which will protect them from extreme frost and the nibbling of vermin, as before now, in severe winters, we have had whole beds with the fine strong buds destroyed; spreading rotten dung over a part of the Asparagus ground, and preparing dung for forcing this, as alluded to last week, which would have been done before now, but for not having the material handy. Put some old sashes over a piece of Radishes. Made some rough protection ready to go over another piece in bad weather, and sowed a bed under a two-light frame. For many other matters see last and previous weeks' notices.

FRUIT GARDEN.

Cleared the Peach leaves from one of the orchard-houses, where they were becoming ripe. Took some pots of Figs, where the fruit was not ripe, and placed them in a pit where they would have a little heat and extra light, as by this means we have often had Figs late; but by this late bearing the plants will not do much as respects an early crop next season. In this house we have an old

Iron stove, which has done good service, though not at all well placed, as the horizontal pipe from it is far too long; but the other night, when frosty, it rather served us out, as it smoked very much and considerably injured the leaves of the Vines. It was for these Vines that the little fire was used, as the fruit on them was not so ripe as we wished, or would have been if we had not kept the house so open and cool to retard the ripening of the Peaches. Coal, too, had been used instead of broken coke, and that also may have made a difference as to the deleterious quality of the smoke and hot gases sent back into the house, as we have frequently had a little smoke before without doing any injury. Even in the present case it chiefly affected the leaves near the glass, and just affected the points of the shoots of a few Ageratums—young plants in boxes that stood on the floor. The smoke did not in the least affect the foliage of Peach trees, Fig trees, or even lots of plain-leaved and variegated-leaved scarlet Pelargoniums. If we had had a foot or 18 inches of a horizontal pipe from the stove and then an upright one, we should have been troubled little with smoke; but there were particular circumstances that rendered 7 or 8 feet of a horizontal pipe desirable, and though this made the managing the stove a little more difficult, it is the first time we have noticed anything like injury to even tender foliage. Most likely in another season we shall either alter the pipe, or, as the stove is old and has done good service in many positions, we may put a brick stove in its place. Wherever there is danger from back draught where tender plants are grown, and a stove, especially if a brick one, is used, it would often be advisable to have the stove so placed that the feeding-door should be outside the house. Under common circumstances, however, there need be no great annoyance if the door for fuel, &c., is inside the house. The injury to the leaves of the Vines is of little consequence now; but it would have been so at an earlier period, and then most likely more care would have been exercised. We mention it chiefly that those who contemplate having such stoves may be careful as to the shortness of the horizontal pipe that goes from the side before it mounts upwards, and we do this more especially because many experiments with this old iron stove have thoroughly convinced us that for maintaining a mild temperature in a small house there is no plan so economical, as respects fuel, as an iron or a brick stove inside the house.

Hay's Stoves.—Hitherto, however, we have strongly advised having an outlet from all such stoves to let the products of combustion escape into the general atmosphere; and although

years ago we used stoves with prepared fuel without any outlet, we always found that in proportion to the heat of the stove and the tenderness of the foliage, the gases that escaped were inimical to the well-being of plants. Since the favourable account of the stoves of Mr. Hays, at page 350, we have had several letters asking our opinion, and if we could thoroughly recommend them; and we can only say we know nothing except what is there stated, but we believe there is much in the prepared peat charcoal fuel, and in the basin of that fuel through which the products of combustion must pass; and the verdict given by Mr. Rivers is of great importance, as no man has had more experience of stoves and their right and economical management. Mr. Rivers, however, would confer one more in addition to the many favours for which we are indebted to him if he would state the result of a pretty briar heat from such a chimneyless stove in a house where the plants had rather tender leaves. We feel more anxious on this subject, because if the safety of such stoves in all circumstances is thoroughly demonstrated, they will in general be more suitable for heating small houses than gas; and we feel anxious all the more, because we have noticed that the heat from chimneyless stoves, and even from open braziers of burning charcoal, will not hurt deciduous plants just opening their blossoms, or even evergreen plants in a state of comparative rest, when such heat will injure them when the growth is more tender and more vigorous. Until more assured on this subject—and we feel confident that Mr. Rivers will farther assist with his usual courtesy—we would be inclined at present, if we had such a stove among tender plants, to follow what seems to have been the mode adopted by Professor Pepper—have a close top to the stove, and a gas-pipe half an inch in diameter to let out the products of combustion. That would be a trifle in comparison with the various-sized funnels or chimnies used for common stoves, and which if much in use come to be expensive, as if merely of plate iron, which is generally used on account of lightness, they soon rust and burn out.

Nailing and Shreds.—Out of doors proceeded on fine days with pruning and nailing, and making preparations for so doing. The spur system of pruning does something to lessen nailing, and much to keep a good new wall from being riddled with nail-holes, each of which becomes a capital nesting place for insects and their eggs. One of the most economical modes of keeping a good wall sound and free of nail-holes, is to stud the wall all over with nails, say for Peaches, &c., at the distance of 5 inches by $3\frac{1}{2}$ inches—that is, missing one course of bricks, and driving the nails in the joints of the next course at from $8\frac{1}{2}$ to 4 inches apart. Of course the shoots are tied to the nails, which remain fixtures. If the nails are well heated in an old shovel or an old kettle over a fire, and are then placed in oil and allowed to dry before using, it will be a long time before they rust much, and especially if coloured as the wall is coloured every year. For trees trained horizontally the nails may be farther apart.

Tying trees is altogether neater than using shreds, and affords much less harbour for insects. When shreds are used, they should not be larger than can be helped, so as to give room to the shoot to grow, and no more should be used than is actually required, as there is no great taste displayed in exhibiting on garden walls patches of all colours. When old shreds are good enough to be used again, they should be boiled in soap water previously, and then be spread out to dry before using. For branches that remain permanently in their place, trees look much neater when tied with cord, rope yarn, or willows, and only the small points adorned with the cloth shreds.

When it is necessary to pull nails from the walls, it is always advisable to loosen them, and the mortar around them, with a tap from the hammer, as that will bring them out clean, without a portion of the wall with them. In olden times the cleaning and pointing of old iron nails, used to be a comfortable job in wet and snowy days, when seated on a stool, with an iron plate before us, on which to beat the points; but that is now almost a thing of the past, since cast-metal nails have come into use. When once these have lost their points they are of no more value, and hence the greater necessity in their case of giving the heads a tap before drawing them out of a wall. If the good shreds are removed from them, and treated as above, all these old nails, with the bad shreds or part of shreds clinging to them, will be most easily and thoroughly cleaned, and made fit for use, by putting them into an old iron vessel over a fire, and heating them enough to burn up all the shreds, and remove all encrustations from the points, stirring

them now and then with a poker to expedite the process. The burning of the old shreds with them acts a little in the way of a substitute for sprinkling oil on them when cleaned, and before they become cold.

Planting.—Transplanted some Hollies and other evergreens. No better weather could have been found for such work when it was fair enough overhead; and we hear of many alterations in shrubberies, and a good deal doing in forming new plantations to come in for timber and cover, thus attempting to combine profit with pleasure. Where game is very plentiful it is of no use expecting to rear a nice vigorous plantation unless it is protected from their depredations—that is, from all four-footed game. If the ground had previously been ploughed, the young plantation might be made tempting to pheasants, &c., which would do the trees no harm, by a thin sowing of Barley or Buckwheat between the trees. A young gentleman hit on a plan of saving young Oaks, which hares and rabbits like so much to nibble, and, though taking a little labour, it has proved very effectual. A small handful of Wheat straw, placed with one end resting on and covering the ground a little at the base of the stem of a young tree, is tied round the stem with a few straws as a band, in at least three places. Enough of air reaches the stem, the straw seems to stand a long time, and we have not noticed a single case in which a young tree thus protected has been interfered with. In making new plantations, however, where four-footed game is abundant, it will be the cheapest plan in the end to surround the place with wire netting, galvanised, and from 2½ to 3 feet in height. When the trees are established and growing freely the netting may be moved to a fresh place, for though in severe weather such depredators will gnaw and bark any trees at all juicy, they will never go to an old plantation, if they can gain access to a fresh-planted one. As a general rule they do most mischief the first season, and often more for mischief and amusement than for any real benefit they derive from it. We have passed row after row of Larch and Hazel, with every twig almost nipped off close to the stem, and the twigs lying on the ground otherwise untouched, as if the work had been done for the mere pleasure of having something to do. In the case of young Spruce, not more than 12 or 18 inches above ground, we have found rows with scarcely a central leader left, and yet little or none of it eaten. So anxious are these enemies of the planter to nibble at these leading shoots of the Spruce, that many planters will only plant it when it is about 3 feet in height, and then if they do nibble a few of the side shoots, they will do but little harm.

As to the modes of preparing for planting, these should be regulated according to circumstances. When a vigorous growth and quick return are required from a deep and fertile soil, then the trenching of that soil from 15 to 18 inches deep will be labour well spent. When the soil is fertile but thin, and has been used at all for agricultural purposes, then the ploughing that land, and allowing it to be somewhat pulverised and dry before planting, will permit of a greater amount of the good soil being placed immediately round the roots of each tree, so as to give it a good start at first. If the soil is thin and stony in a moorland waste, but deep enough for holes to be made, then these may be made at regular distances with advantage, the surrounding surface knocked into the hole, and the best soil used to go about the roots. If the soil is too thin and stony, or has a tenacious, adhesive bottom, the only plan is to resort to slit-planting, without holes, and though growth will proceed slowly at first, it is amazing how trees will ultimately establish themselves in such otherwise almost useless ground. Though the best and quickest returns will always accrue from the best land, yet relatively considered, the greatest gain is obtained from planting the worst land, as the land was of little value before, and would not have been worth cultivating for corn crops. This would be found to be the fact, though little credit should be given to the improved appearance of the landscape, the warmth and shelter afforded to a district, and the great improvement to such poor land by the annual shedding of the leaves from the trees.

We have often had an opportunity of noticing that the mode of doing such work is of importance. A number of years since a large piece of hilly ground was trenched; but as the good soil was thin the trenching only brought up clay and chalk. A neighbouring piece was rough-ploughed, and there the trees were planted as alluded to above. The first part has never made a plantation to this day, and never will until it be trenched back again, and therefore the labour and the expense of trenching were worse than thrown away. The ploughed part, on which the roots at once indulged in the best surface soil, has

yielded already several valuable thinnings for rails, roofs of sheds, posts, and other purposes.

In planting, trees should be chosen to suit the soil; and in a landscape point of view it will always be of importance if even the kind of nurse, as well as the kind of permanent tree, should consist chiefly of one kind in one place. For instance, in these autumn months how different is the impression, as respects variety, in looking at one wood at a distance where the trees consist of many kinds, all mixed together, and in looking at another wood where there is no abrupt dividing line, but a shading of kinds and colours, and yet the different kinds appearing chiefly in separate masses. For instance, we can look at a plantation where the nurses are Larch and Scotch Fir in equal proportions, plant for plant, or line for line; we look on another where, beyond the kind of shading point to prevent abrupt distinction, there is in one place a good mass of Larch, and then in another place a good mass of Scotch Fir. The first plan would merely show how easy it was to make sameness from a great number of different varieties; and the second would show how comparatively easy it would be with few materials to produce distinctive variety.

With regard to the trees themselves, where much planting is to be done it is best that the trees should be taken up from the neighbourhood, the roots passed through a puddle, and then kept in moist litter until wanted. Trees are often much injured when they come from great distances before they are planted. It would only, however, be in rare instances, and where something like a nursery department was kept and thoroughly attended to, that gentlemen could rear their own forest trees with advantage. As in everything else, what people are constantly doing they do better, more economically, and in much less time than those who only do such work occasionally. Gentlemen will purchase trees from nurserymen much cheaper than they can raise them, and if the trees are procured when in a comparatively young state the carriage will not cost much. When these are planted in rows in enclosed ground—say for a couple or more years, and raised and finally planted out only as the work can be properly done, we feel convinced that such a system would be most suitable and remunerative for all parties. Much larger trees could thus also be planted out successfully than could be generally done when they arrived from a nursery a long way off, and their stems and roots were pretty well kiln-dried and all moisture driven out of them.

Moss as a Protecting Material.—We have two or three inquiries on this subject, and for keeping out frost from the roots of plants which would otherwise be injured by it, nothing can be more neat and useful. It will require a wonderful frost to pass through 3 inches of moss. Many years ago we helped to protect huge Fuchsia stools in this way in the open ground. The Fuchsias were cut down close to the ground, and valuable sticks the tops made, after they were frosted or well dried; the moss was packed firmly over the stems and roots, neat sticks were laid over the moss, at 3 or 4 inches apart, other sticks crossed them just like an open-meshed sieve, and then a pin at each of the four corners, fastened into the ground, kept all neatly in their places. Tender Roses on their own roots may be protected in the same way, but fern and dry litter about the stems would also be an advantage. In many cases it is as well to take them up, pack the roots carefully in leaf mould in a shed, protect the tops with a little litter, and then plant out carefully in April. Moss does not do so well for Hollyhocks, about which a correspondent inquires, as for Fuchsias, tender bulbs, &c., as whilst it protects the roots, it also protects slugs and snails from the cold, and these would be apt to luxuriate on the young shoots and stems of the Hollyhocks. Valuable roots which it is desirable to increase had better be taken up and placed in a cold pit or frame; but the general lot of plants, when numerous, will be well protected, and slugs will be kept well at bay, by placing over them little mounds of dry burnt earth and charred rubbish, or even a cone of rough ashes, the drier the better. It is a long time before these become wet, and no crawling thing likes to push into them.

As respects bulb-planting, treatment of hardwooded plants, Chrysanthemums, Cinerarias, Primulas, watering, ventilating, &c., see notices of former weeks.—R. F.

TRADE CATALOGUE RECEIVED.

Robert Ward, Ipswich Rosery.—*Descriptive List of New Roses and Zonate Pelargoniums.* With plates of Mrs. Ward and Mrs. John Berners Roses, and of Miss Martin, Sir Fitzroy Kelly, and Floribunda Nana Pelargoniums.

COVENT GARDEN MARKET.—NOVEMBER 17.

AGAIN we have to report large arrivals of foreign produce, especially Grapes, some of which promise to keep well. New Oranges come also in good condition, and from places which a few years ago hardly turned a plantation, anticipating the St. Michael's crops by a fortnight or three weeks. Good dessert Pears and Apples are a little more in demand. Of Potatoes, there is a full average supply, and a fair amount of business is being done.

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.		
Artichokes..... each	0	2 to 0	4	Leeks..... bunch	0	2 to 0	0
Asparagus..... bundle	0	0	0	Lettuce..... per score	1	0	1
Beans, Broad..... bushel	0	0	0	Mushrooms..... pottle	1	6	2
Scarlet Run..... sieve	0	0	0	Mustd. & Cress, punnet	0	2	0
Beet, Red..... doz.	2	0	8	Onions..... per bushel	2	0	8
Broccoli..... bundle	1	0	1	Parley..... doz. bunches	2	0	8
Brus. Sprouts..... sieve	2	0	8	Parsnips..... doz.	0	9	1
Cabbage..... doz.	1	0	2	Pears..... per quart	0	0	0
Capicums..... 100	2	0	4	Potatoes..... bushel	2	0	4
Carrots..... bunch	0	4	0	Kidney..... do.	2	0	4
Cauliflower..... doz.	2	0	6	Radishes doz. bunches	0	6	1
Celery..... bundle	1	0	2	Rhubarb..... bundle	0	0	0
Cucumbers..... each	0	4	1	Savoy..... doz.	0	0	0
pickling..... doz.	0	0	0	Sea-kale..... basket	2	0	4
Endive..... doz.	2	0	0	Shallots..... lb.	0	8	0
Fennel..... bunch	0	8	0	Spinach..... bushel	2	0	8
Garlic..... lb.	1	0	0	Tomatoes..... per doz.	0	0	0
Herbs..... bunch	0	8	0	Turnips..... bunch	0	4	0
Horseradish..... bundle	2	6	4	Vegetable Marrows dz.	0	0	0

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples $\frac{1}{2}$ sieve	2	0 to 8	Melons..... each	2	6 to 5
Apricots doz.	0	0	Nectarines..... doz.	0	0
Cherries lb.	0	0	Oranges 100	8	0 12
Chestnuts bush.	12	0 20	Peaches..... doz.	6	0
Currants $\frac{1}{2}$ sieve	0	0	Pears (dessert)..... doz.	1	0 8
Black do.	0	0	kitchen..... doz.	1	0 2
Figs doz.	0	0	Pine Apples lb.	3	0 6
Filberts..... lb.	0	6 1	Plums $\frac{1}{2}$ sieve	0	0
Cobs 100 lbs.	0	6 1	Quinces $\frac{1}{2}$ sieve	6	0 8
Gooseberries quart	0	0	Raspberries..... lb.	0	0
Grapes, Hothouse..... lb.	2	0 6	Strawberries..... lb.	0	0
Lemons 100	8	0 14	Walnuts..... bush.	10	0 20

TO CORRESPONDENTS.

* * We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

FRUIT TREES FOR AN ORCHARD (H. J. C.).—In planting an orchard for market purposes you should not have too many varieties, but let those you select be of the best, and such as you can send to market in large quantities. We should, therefore, advise that your seventy Apples should consist of seven sorts, and your forty-eight Pears of six sorts; and as you want them all to come in at Christmas and following months you will find these sufficient. Apples—Cor's Orange Pippin, Golden Winter Pearmain, Ashmead's Kernel, Dummelow's Seedling, Warner's King, Yorkshire Greening. Pears—Knight's Monarch, Bergamotte Espere, Huxley's Victoria, Beurré de Rance, Joséphine de Malines, Easter Beurré.

BRITISH WILD FLOWERS (M. P.).—You can have each number monthly free by post, if you enclose for it fourteen postage stamps with your address.

EXAMINATION IN HORTICULTURE BY THE SOCIETY OF ARTS (A Constant Reader).—There will be an examination in 1897. The advantage derived from having a certificate is the same as that which a schoolmaster derives from a certificate given by the College of Preceptors. It is a high testimonial of his attainments.

MANURING ROSES (A Young Gardener).—Put the mixture of cow and horse manure on the surface in a radius over the roots, and let the rains carry the manure down to the roots. In the spring lightly fork the remains into the soil.—W. F. RADCLIFFE.

VIOLA CORNUTA.—In reply to your correspondent "J. M." permit me to say that I stated my experience with the varieties of this plant, and seeing that several worthless kinds are offered for sale, I merely urged the desirability of securing one that will give satisfaction. I am very glad to hear that the variety grown in the neighbourhood of Workshop answers this purpose.—BRUCE FINDLAY.

VIOLA CORNUTA FLOWERING THROUGHOUT THE SUMMER (S. H.).—As frost may soon be expected to set in, you had better put cuttings into an old frame, so that they may be sheltered a little from the weather. This will insure their striking freely, and will encourage the cuttings to grow more freely after they have emitted roots. By these means you will obtain good plants for flowering early in the spring. Some cuttings should be put in again in May or June, and another batch in August or September for standing the winter in the open ground, as the plants can be removed

with nice little balls of earth about the roots. They may be removed from the store-beds to the flower garden at any time during the summer without their suffering any injury. A very pleasing effect may thus be secured where it is thought necessary to change the colour in any of the beds in the flower garden. See previous articles.

PAINT OF DESTRUCTIVE QUALITY.—In reply to "T. R.," I suffered from similar paint, which was used for the interior of a yacht's cabin, and, though constantly open to air, it never dried or lost its offensive smell for twelve months. I tried washing with turps and other driers without effect, and ultimately had it washed off with potash, as now recommended by you, which removed it thoroughly.—G.

PERIS SERRULATA (C. P.).—That which you term "turning red" is the ripening of the spores round the edges of the fronds. Those spores sown and properly treated would produce seedling plants.

BOOKS (An Inquirer, Newcastle).—"The Garden Manual" can be had free by post from our office if you enclose twenty postage stamps with your direction. "Greenhouses" if you enclose seven stamps can be similarly sent. They contain the information you need.

BEDS ON LAWN (Nemo).—We never undertake either to draw plans or to plant, we only criticise plans and plantings proposed. If you require your drawing to be returned, please to send us a directed and stamped envelope.

PLANS OF BORDERS (T. H. P.).—The work we mentioned will be published in the spring. We cannot state the price until we know the number of pages it will comprise. It will be announced when ready.

VINES IN POTS (D. G.).—You can have the fruit ripe by the end of June by commencing to force them in the first week in February. It would be well to plunge the pots in a mild hotbed (not exceeding 70°), about the middle of January, which would cause the roots to start, but the atmosphere must not exceed 45° at night. Withdraw the pots from the hotbed gradually, so as not to cause a check; it is better to make up a slight hotbed within the house, so that any danger of this kind will be prevented by the pots remaining in the bed until it becomes cold.

GRAPES DROPPING (Tom).—The wetness of the border from its not being kept dry by a waterproof covering is the most likely cause of the berries dropping when the bunches are touched; the berries have attained a state of decomposition. You may save those bunches that are still good by keeping the atmosphere dry by fire heat during the day only; much depends, however, on the kind of Grape you are endeavouring to keep. The border should also be kept dry. The bunches should be frequently examined, and any mouldy berries scrupulously cut out as soon as seen.

VINES FOR A GREENHOUSE (S. A. N.).—For a greenhouse the Black Hamburg and Trencham Black are the best of Black Grapes, and of White Grapes the White Frontignan and Buckland Sweetwater are good.

KALMIA BED (Idem).—Dig out the soil where the bed is to be made to a depth of 2 feet, and with a pick loosen the bottom below that, then fill up with the top spit of a common or moor peat or bog soil, that being best which is brown and full of the particles of fine silicious sand. It should be chopped with a spade, made somewhat fine, and mixed with one-third of the top spit of the ordinary soil, if this be of a light or loamy nature, but avoid it altogether if of limestone or chalk. It is presumed the soil is drained, for though these plants like moisture they do not thrive where water lodges in the subsoil.

PRUNING CAMELLIAS (J. F. Hammermith).—The best time to prune these is at the end of March or early in April, or directly after the blooming is past, and always before the plants start into growth. After having been pruned, the plants should be placed in a house with a gentle heat of from 50° to 55° at night, be syringed morning and evening, and the house otherwise kept moist. Give a moderate amount of air and slight shade from bright sun; that of Vines overhead is very suitable. Continue this treatment until the shoots have ceased to elongate; then admit more air, and expose more fully to the light; do not allow the sun to shine powerfully on the leaves whilst wet, and keep the roots well supplied with water. When the buds are set, keep the plants well aired and cool, continuing them under glass. The greenness and immaturity of the wood is the cause of the absence of flower-buds. Keep them in-doors in future, and thus have the wood matured.

VINE BORDER RENOVATING (Idem).—You may safely take off the soil down to the roots, replace it with 6 inches of turfy loam or sods cut from a pasture 2 inches thick, chopped with a spade, adding one-sixth of boiled crushed, or half-inch, bones, and then cover with 18 inches of fresh stable-manure, so as to raise a gentle warmth. Your plan of taking out a trench 6 feet wide, and filling it with manure is not good, but if your border is narrow you may take out a trench as you propose in front, and fill it with the above compost. If you find the roots 18 inches or 2 feet deep, do not leave them at that depth, and cover with 1 foot of manure, and then with 6 or 8 inches of soil, as that would make their case the same as before you began; but the best mode of proceeding, if there is a sufficient depth of soil, will be to lay the roots bare, and cover them with 6 inches of compost, putting hot dung or leaves on the top to attract them into the compost; or a better plan would be to lift the Vines carefully, spread out their roots on the surface of the border, and cover with 6 inches of fresh soil, placing on that 18 inches of leaves and litter, so as to raise a gentle heat. Put as much manure as you like on the border, but avoid mixing it with the soil.

PLANT FOR A LOW HEDGE (J. C. Beale).—The best plant which we know is Double-flowering Furze. For an inside fence Laurestinus would answer very well, if cut in every year in May.

ALPINE STRAWBERRY SOWING (A. B.).—The beginning of March is a good time to sow the seed in pans or boxes. Place them in a frame with a gentle heat. The seed may be procured through any nurseryman or seedsman of note.

FORCING STRAWBERRIES (Idem).—You may place the Black Prince Strawberry in a vinery to force at the beginning of December, and if a proper temperature is secured, that for Vines answering well, you may expect fruit ripe in February or early in March. It is well not to employ too much heat.

RHUBARB AND SEA-KALE FORCING (Idem).—If you place the roots in a house with a temperature of from 55° to 65°, you will have both in three weeks or a month.

SOWING FOREST TREE SEEDS (An Old Subscriber).—Now is the time to sow the berries of the Irish Yew in a bed of rather light soil in a sheltered situation; cover them with an inch of soil. This is also a good time to sow acorns and Chestnuts. Sow in drills about 9 inches apart, and allow an interval of from 1½ to 3 inches between the seeds. Any good soil will do. You may also sow Walnuts in the same manner, covering them with 1½ or 2 inches of soil; or you may preserve the nuts in sand, and sow them in February. You may sow the seeds of the Larch early in March in soil of a light sandy nature, covering to the depth of about an inch. Look out for mice, for they frequently eat the seeds.

WEIGELA ROSEA (A Young Hand).—Your Weigelas, taken up from the shrubbery, will flower in the greenhouse in spring if the wood is sufficiently ripened, and if they be kept with the pots plunged in an open sunny situation until January, when you may introduce them into the greenhouse. If you take cuttings from the shoots of the current year, prepare them like those of Currants, and insert them in the same manner in an open situation, yet sheltered, in sandy soil, you will find them take as freely. Now is a good time to do it.

KALMIAS IN POTS (Idem).—The Kalmias now in a sunny spot may remain where they are, the pots being plunged. We fear that as you kept them under a shady tree until September, they will not flower, but that you will know by their buds. They may be introduced into the greenhouse early in February. You could not have done worse than to have put the shrubs where you did, for though the plants grow in such situations, flower-buds are seldom formed, and they are formed much earlier than September.

OLANDERS IN ENTRANCE HALL (S. P.).—The pans in which the pots stand should not be kept full of water, but what is necessary to maintain the foliage should be given at the surface when required.

FORCING ROSES (W. G. R.).—Your plan of making up a bed of leaves is good, and will do excellently to secure a good root-action and the eyes breaking with certainty. When the shoots are an inch long, gradually withdraw the pots from the hotbed, and remove them to a cool light, and airy shelf in the stove. Sprinkle them overhead morning and evening with water of the temperature of the house until the buds show colour. You may keep them in the bed as you propose until they show their buds, but we fear you will not be able to command the requisite temperature.

BLACK PRINCE STRAWBERRY FOR EARLY FORCING (Idem).—It is one of the best, if not the very best, for early forcing, and we have used it extensively for the purpose during many years.

VIOLA HIBERNICA (W. E.).—We do not know a species so called. It is quite possible, as you say, that it is the same as *V. cornuta*, and that it is quite common in old gardens in Derbyshire, for *V. cornuta* was introduced as long since as 1776. It is a native of the Pyrenees, and was known to old gardeners as the Pyrenean Violet. The yellow leaf of the Nepeta is pretty, but it is quite impossible from a single leaf to judge of its merits. You will have to prove by growing it whether it is permanent.

SALT AND LIME AS MANURES (J. B. R.).—We cannot answer you better than by giving two extracts from "Manures, or Much for the Many," which you can have free by post from our office if you enclose four postage stamps with your direction:—

"To garden soil of the usual staple about fifty bushels of lime per acre are a sufficient quantity. If the soil be clayey the quantity may be doubled. A very excellent manure is formed by mixing one bushel of salt with every two bushels of lime. Lime cannot be applied to the soil too fresh from the kiln; for, if allowed to absorb carbonic acid from the air, it is rapidly converted into chalk.

"When crops are devastated by the slug, dress them some evening, so as to render the surface of the soil quite white, with caustic lime, during the promise of a few days' dry weather. It is instant destruction to every slug it falls upon, and those that it misses are destroyed by their coming in contact with it when moving in search of food.

"Mixed in the proportion of one bushel of salt to two bushels of lime, it is an excellent manure for Potatoes, dug into the soil at planting-time. Twenty bushels of lime, and ten of salt, would be enough for an acre sown over the surface."

"Salt applied in the spring at the rate of twenty bushels per acre, has been found very beneficial to Asparagus, Broad Beans, Lettuces, Onions, Carrots, Parsnips, Potatoes, and Beets. Indeed, its properties are so generally useful, not only as promoting fertility, but as destroying slugs, &c., that it is a good plan to sow the whole garden every March with this manure, at the rate above specified. The flower garden is included in this recommendation; for some of the best practical gardeners recommend it for the Stock, Hyacinth, Amaryllis, Ixia, Anemone, Colchicum, Narcissus, Ranunculus, &c.; and in the fruit garden it has been found beneficial to almost every one of its tenants, especially the Cherry and Apple. On lawns and walks it helps to drive away worms, and to destroy moss."

SEEDLING VERBENAS (Dark).—They were quite faded and crushed. Flowers for an opinion to be formed should be placed in damp moss and a box that the post-office punches will not crush.

VARIOUS (A. C. S.).—Were every correspondent to ask so many questions at one time all the pages of this Journal would not suffice for answers. We must be brief even in answering six of the questions. 1. When Grapes are ripe they will keep longer if kept cool—say in a temperature of from 35° to 45°. In dull weather keep the air dry and in motion. 2. Severe thinning of the leaves will do nothing to prevent the shanking of the fruit. 3. Cutting away a great portion of the young wood would be equally ineffectual. 4. The rods in a house reserved for Vines alone may be from 30 to 36 inches distant. 5. The leaves becoming red at the top of the house, whilst those lower down are well coloured and green, is a proof either that the wood is better ripened there, or that the foliage has been attacked by insects or has been hurt by undue ventilation. 6. The "Gardener's Assistant," written by Mr. Robert Thompson, and published by Blackie & Sons, is a first-class work.

APPLES (J. W. L.).—There are probably many Apples which "become transparent and pinkish" when cooked. The Waltham Abbey Seedling and the Golden Noble especially do so.

NEW ROSES (C. S. G. E.).—You can obtain all the French ones, from M. Eugene Verdier, 8, Rue Dunois, Gare d'Ivry, Paris, and "Mrs. Ward" from Mr. Robert Ward, Ipswich Road.

GROSSE MIGNONNE v. ROYAL GEORGE PEACHES (*Lincoln*).—A Royal George and a Grosse Mignonne of equal merit, health, &c., having overgrown each other, so that you are under the necessity of removing one of them, we advise you, as they are in a Peach-house, to retain the Grosse Mignonne, as there it will be less liable to mildew and other defects than the Royal George.

STORING MEDLARS (*Medlar*).—The fruit should be left on the tree until the end of October or beginning of November, or until the stalk parts readily from the shoot, and when that is the case choose a dry day for gathering and placing upon shelves in the fruit-room. Do not place the Medlars upon straw unless very clean and dry, as that is apt to cause them to be mouldy and acquire a musty flavour. They are subject to the attacks of a fungus which first makes its appearance on the stalks and spreads over the fruit. To prevent this the stalks may be dipped in a strong solution of salt. Careful supervision is necessary, any mouldy fruits being removed when first seen, otherwise the fungus spreads rapidly. Your fruit, we think, is attacked by fungus, and if so is unwholesome.

PRUNING EVERGREENS (*Idem*).—We know of no cheap work on the subject. You may avoid stumps by not cutting back too closely, and by always cutting back to smaller or twiggy shoots. Allow some shoots to remain longer than others, and cut the strong shoots closer to their base than the twiggy ones. Judgment is required in cutting trees so that they may look well. Nothing is uglier than a "crop," or all the branches cut to one length. Leave them feathery.

CRANBERRY CULTURE (*J. P. G.*).—The Cranberry may be cultivated in beds of peat or bog soil, and is best on the margin of a clear pond or running stream. Dig out the ground so that the bottom of the bed may be 6 inches below the surface of the water. Place about 8 inches of sandstone over it, and above that 9 inches of bog soil. The plants may be planted about 2 feet apart, and then allow the water to run in. If you wish to grow the American Cranberry, which is larger and better than the British species, you may make in a damp situation a bed of bog soil 9 inches in depth, and 6 inches below the surrounding ground when finished. The roots should be planted in spring when danger from frost is past, or early in autumn, at 2 feet apart, and they quickly spread in all directions. The plants should never be allowed to suffer from want of water. Their home is a bog or swamp. We do not know where plants may be had.

RAISING FERNS FROM SPORES (*Idem*).—Half fill a pot or pan with pieces of broken pots, and fill to the rim with peat two-thirds, and loam one-third, adding one-sixth of silver sand. Make the surface smooth and firm, and give a good watering. Whilst wet scatter the powder or spores of the Fern over the surface; or, holding a frond with ripe spore-cases over the pot, rub the hand against the back or under side of the frond, and the yellow or brown powder-like spores will settle upon the surface of the soil. Gently pat the surface with the hand and cover the pot with a bell-glass, its rim fitting exactly within the rim of the pot and resting on the soil. Place the pot in a saucer, and fill the latter with water, always keeping it full, and put all in a house with a temperature of from 60° to 65°, the house being shaded from bright sun, or if not, a paper cap made to fit on the upper part of the glass, and put on during bright sun, will answer every purpose of shade. The surface of the soil must always be kept moist, and the glass should be kept on closely until the soil becomes green; then tilt the glass a little on one side by night, and increase the amount of air by day and as the surface becomes more green. Continue the bell-glass over the pot until the plants have formed two or three fronds, and then gradually harden off and pot the seedlings when large enough to handle, keeping them moist and carefully shaded.

SOWING ANNUALS FOR SPRING BLOOM (*E. F.*).—It is now too late to sow them. To do well they should be sown in September or early in October. It would therefore be better to defer sowing until spring, and then they will not flower nearly so soon as if sown in autumn. Your *Tropaeolum* was too much crushed and faded to be identified.

BOWLING-GREEN (*An Old Sub.*).—We advise dressing the bowling-green in February to the depth of an inch with equal quantities of finely sifted ashes and rotten manure. Allow the dressing to remain until April, and then go over it with a rake, filling up the small holes. On a dry day, with an early prospect of rain, sow over it *Cynosurus cristatus*, 4 lbs.; *Festuca duriuscula*, 4 lbs.; *Poa nemoralis*, 3 lbs.; *Trifolium minus*, 4 lbs., and *Lotus corniculatus*, 1 lb., and roll well. Allow the grass to grow until the beginning of May, then mow and roll twice a week. The weight of seed named is for an acre. Towards the end of May give a dressing of guano at the rate of 3 cwt. to the acre, applying it during wet weather, and repeat it during the first showery weather in July. Should worms be troublesome after rolling well on the previous evening, in autumn during moist weather water the grass with lime water, which will bring the worms to the surface, and they may then be swept off. One peck of lime to thirty gallons of water is the right strength. Put the lime in a cask, pour the water in, stir well, allow the liquid to stand for forty-eight hours, and use the clear liquid only. It may be applied with a rose watering-pot, give a good drenching, and, if necessary, repeat the application. Be careful to keep the grass well rolled, and especially in autumn.

DESTROYING THRIPS (*Charles*).—Choose a calm evening and fill the house with tobacco smoke, so that a plant cannot be seen from the outside through the glass. Repeat this every alternate night for a week, and smoke again whenever the pest is seen. Burning sulphur is so injurious that it will kill Vines as well as all animal and vegetable life. Tobacco smoke will destroy the white and black thrips. Be sure to have the foliage dry when the house is fumigated, and shut it up close.

MANDEVILLA SUAVIFOLENS CULTURE (*Edward Gray*).—Keep the plant in its present pot until March, and then repot it. The plant will not lose its leaves. Give no more water than sufficient to maintain it in health, and to prevent the leaves shrivelling. It will be all the better of a rest.

LAWN RENOVATING (*F. J. C.*).—You will overcome the moss and coarseness of the grass by giving a good top-dressing of rich soil between the present time and March, scratching the surface with a long-toothed iron rake two or three times. Frequent mowing and rolling will do the rest. The best and only way to level a lawn is to take down the hills and fill up the hollows, putting in stakes with their tops all on one level, and filling up the ground or taking it down as required. Grass seeds will not thrive in a poor subsoil, from which the surface soil has been re-

moved to a depth of 2 feet, nor on those parts where the hills have been taken down, unless fresh soil be brought and the subsoil removed or dug up and exposed to frost, so as to become ameliorated.

BELLADONNA LILIES NOT FLOWERING (*E. M.*).—Your treatment is altogether wrong. They ought never to be placed in a cupboard, nor to be potted so frequently. Keep them under-potted, and set on a shelf in the greenhouse, keeping them in the full sun all the year round, and well supplied with water up to the end of May; then reduce the quantity, but do not allow the soil to become dust dry at any time, and do not pot them again until they have flowered. Afterwards let them raise themselves out of the pot before any more is done than rectifying the drainage. We fear your situation out of doors was not warm enough. They require a border in front of a greenhouse or stove to do well in our climate, a mulching of leaves in winter, and the soil to be well drained.

PROPAGATING PERNETTYA MUCRONATA (*Idem*).—It is propagated by layers and cuttings, the former being successful. The seedlings raised from its berries may not flower for another five years. You can only accelerate that by frequent removal of the plants and propagation.

BOOK (*F. Jenkins*).—Loudon's "Villa Garden" might suit you. We have a volume now printing on the same subject, and fully illustrated. We have to apologise if we have not answered former queries; please to repeat them, for we do not remember them. (*M. A. E.*)—We know of no botanical work devoted to alpine plants.

GREENHOUSE FOR WINTERING PLANTS (*Ignoramus*).—For a width of 8 feet we would have a two-foot walk in the centre, a stage of several shelves against the back wall so as to rise within 18 inches or so of the top, and a flat stage or shelf in front. You may have about three ventilators in the front wall, and front glass would scarcely be needed; and two good ventilators, one at each end, just below the apex, would be quite sufficient, so that you could have the roof fixed and no rafters. British plate would suit you, so would Hartley's rough plate, which would require no shading. Either a brick Arnot's or a Hays's stove would suit you. If the latter, have one with a flat top, so that you can set an iron basin of water over it, and see "Doings of the Last Week" as to a small pipe leading from it to the external atmosphere.

HEATING A VINERY (*Birchell Lodge*).—1. Your two flow-pipes and a return inside a perforated flue will give you about enough heat to commence forcing in February, and the one flow and return in the flue will do for the late house, in which the Vines may be allowed to break naturally. 2. The flue, 18 inches wide, covered with perforated tiles to let heat up from the return-pipes will do well in assisting Vines in pots placed on them; but were we building such a flue along the back of the house we would prefer to have the tiles close, leave all our pipes exposed, and take the heat from the furnace along the flue, and out at a chimney at the farther end. 3. On your plan, yes; 4, ditto; and 5, ditto; but we would prefer the flue for hot air from the furnace, and the return-pipe exposed.

VARIOUS (*S.*).—Before you read this, probably, you will have regretted sending your disconcerting letter. We are obliged to limit our replies. Information as to the culture of one or two plants we readily give at a time.

GARDEN PLAN—STOVE, &c. (*M. B.*).—We have no doubt that Hays's stove would suit your small house, especially with a gas-pipe leading from it; and in very severe weather you could either have an evaporating-pan, or keep the floor near the stove damp. There is the advantage, that for such a stove you can do all the work comfortably whatever the weather may be. If your greenhouse part had a tiled floor a small flue beneath it would also answer well; and considering the expense of the prepared fuel for the stove we think it would be found more economical, but of that we cannot be certain, never having worked the stove. We approve of the summer planting of your long circular border of 303 feet, but think it would be improved by an edging next the grass all round of *Cerastium* or variegated *Arabis*, which would be useful both for winter and summer planting. There are many ways in which such a border might be made gay in spring and the ground well covered in winter; but the difficulty is to do it in any way, and now, without previous preparation, "as reasonably as possible." Such a border could be filled entirely with herbaceous plants, as different kinds of Daisies, Primroses, Polyanthus, blue, purple, and yellow *Cliveden* Pansies, Anemones, especially the single scarlet, the yellow and orange *Cheiranthus*, and a number of colours of Wall-flowers for the back of the borders. With the exception of the latter, which had better be sown every April in a border, and the Anemones, which should be lifted when ripe and planted now, all the rest would need to be taken up about the middle of May, planted, and divided before planting, in a reserve garden, and be planted again when the bedding plants were removed. A very interesting border may be thus formed: A row of Winter Aconite near the edging line, and behind it a line of Snowdrops; then, say, one-foot circles, with a foot between them of the different coloured Crocuses and Primroses; then a foot from these other circles of dwarf Tulips, Pansies, *Cheiranthus*, and *Polyanthus*; behind these patches of taller Tulips, Narcissus, and *Hyacinthus*, backed by Wallflowers. The whole ground between these little circles might be carpeted with *Cerastium*, or with such annuals as pink and white *Virginian Stock*, white and pink *Silene pendula*, and blue *Nemophila*, sown in a border in July, and lifted and transplanted as soon as the bedding flowers were gone. Much might be done by sowing boxes of such annuals in the greenhouse now, keeping them hardy after being established, and planting them out in February or March. For early spring blooming there are few annuals that will need hotbed aid. These are two out of the many ways such a border may be managed, and both would yield what you want—out flowers; but both would be costly if no preparation has been made, as by no mode of managing annuals sown now in a greenhouse, or sown in a slight hotbed in February, and hardened off, and planted out about the middle to the end of March, will they bloom sufficiently to be removed before bedding-out time, with the exception of *Virginian Stocks*, *Silenes*, &c. The common *Candytuft* will bloom very early if sown from July to August; and we have omitted to state that all the sweet Violets would do well in such a border in spring. To make the most of it there will be great labour in removing as well as in planting. We think your combination of vinery, greenhouse, and fowl-house will do very well, and we think the size of the back runs will do. Your proposed plan of setting the plants which stand over the place for fowls on inverted saucers set inside of other saucers standing upright in the usual way, were it not for the fowls' picking the covering of the wire fence that separates the fowl part from the general greenhouse, would improve its appearance.

STARTING VINES AND STRAWBERRIES (J. H., Lancashire).—You should not start your Vines in pots and Strawberries at Christmas in a higher temperature than 45° for the first ten days, and then raise the heat gradually. The Vines may have from 5° to 10° more at the roots than the top if it is convenient to give it.

FORCING VINES EARLY (Frank).—If the wood of your Vines, from which you cut the fruit six weeks ago, is not ripe now, what did you turn it out of doors for? It would have ripened much better in the house, and even now would be better in the house and the air kept dry; and instead of, in the circumstances, beginning to force on the 1st of January, you would do better to delay it to the middle of that month or the beginning of February. Your filling the large pit in the house with tree leaves will do nothing to ripen the wood now; but it will be of importance if you fill such a pit a fortnight before you apply fire heat, and it will help you much during the forcing time until the Grapes change

colour, when a little dry soil could be thrown over the leaves. If you began to force in January you may expect to cut in July. In the greenhouse you had better sow the seeds of the *Viola cornuta* in March.

NAMES OF FRUIT (James Scott).—*Pear*: Glou Morceau. *Apples*: 1, Lewis's Incomparable; 2, Stoup Leadington; 3, Striped Beeding; 4, Flower of Kent; 5, Royal Somerset; 6, Reinette du Canada.

NAMES OF PLANTS (M.).—1, A *Gladiolus*, hardy, but varieties too numerous to allow of naming it. 2, *Lonicera aureo-reticulata*, Japanese Honeysuckle; hardy. 3, Flowers too much injured to be identified, but seemingly *Viola rothomagensis*, the Rouen Heartsease. (*A. B.*)—1, *Stemonanthus macrophyllus*; 2, *Leucostegia* probably, but too imperfect for determination; 3, *Anemia hirsuta*; 4, *Dichorisandra ovata*; 5, *Nephrolepis exaltata*; 10, *Pteris flabellata*. (*C. H.*)—*Pteris longifolia*, we believe. (*Country Curate*).—*Sedum carnosum variegatum*, not quite hardy.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending November 17th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 11	29.918	29.728	60	37	50	50	W.	.00	Fine throughout; slight frost at night.
Mon. . . 12	29.945	29.680	59	45	50	50	S.W.	.06	Fine; overcast; overcast and boisterous; rain. (number of aërolites.
Tues. . . 13	29.889	29.505	59	37	50	51	W.	.14	Boisterous, rain; fine; stormy, showery; clear and very fine; vast
Wed. . . 14	30.119	29.808	53	36	50	50	W.	.00	Exceedingly clear; very fine; clear at night; aërolites very nume-
Thurs. . 15	30.121	29.758	56	48	50	49	S.W.	.02	Slight frost early A.M.; uniformly overcast; slight rain. [rous.
Fri. . . 16	29.444	29.313	57	37	50	49	S.W.	.00	Overcast; cloudy and boisterous; very slight frost.
Sat. . . 17	30.287	30.072	49	23	50	49	N.W.	.00	Clear; quite cloudless and very fine; barometer throughout the week very unsteady.
Mean	29.994	29.687	55.00	32.43	50.00	49.71	..	0.84	

POULTRY, BEE, and HOUSEHOLD CHRONICLE

NON-ORNAMENTAL POULTRY.

WITH reference to the articles by "G. R. B.," "JUSTITIA," and "A. E.," of Bristol, in the late Numbers of your paper, "G. R. B." honestly admits that the Dorkings are not first-rate layers, and "JUSTITIA" considers my remarks unjustifiable, in which I differ from him. "A. E.," of Bristol, is not so moderate in his remarks, and his lavish praise of the clumsy and ugly-shaped Brahma Pootras appears to me absurd. Brahmas are less prolific and less hardy than Game fowls in my opinion, and the Brahma hens are clumsy and awkward mothers. I think Dorkings, Cochins-Chinas, Brahma Pootras, and the large Malays are clumsy and ugly-shaped birds, and so most impartial people consider them.

In my opinion the common white-legged barndoor fowls, bred large, are quite equal in all useful properties, and not being so much bred in-and-in, are superior in some respects to any of the Dorkings, Cochins-Chinas, Brahma Pootras, Spanish, Hamburgs, or Malays.

In stating this I am fully aware that Dorkings are, on the whole, the most popular of poultry, but I think rather undeservedly so. They are also a thoroughly English fowl, which is also in their favour.

The Spanish fowls appear poor and tame in blood and carriage as compared to the Game fowls, which are the true aristocracy of poultry, and the Game cock is certainly the king of poultry. I could mention the names of many lady exhibitors of Game fowls, some of them titled people.

The Cochins-China mania has much abated, as we no longer hear of a hundred guineas being given for a Cochins cock, as formerly. I would not give a hundred pence for one. I am aware that this breed is even more frequent than formerly at exhibitions, and more common of course.

I have been a close observer of all sorts of poultry, and have bred other sorts besides Game fowls, and am qualified for a poultry judge if required or selected as one. I have not exhibited much, and not at all for nine or ten years, and when I did exhibit the birds were only Black-breasted Red Game, with which I won first prizes, sweepstakes, and commendations. I merely sign as "NEWMARKET," because I lived within thirty-five miles of that place at one time, and the original stock of my Black-breasted Red Game came from Newmarket; but I never resided there.

With poultry fanciers the proper motto should be "*Chacun à son goût*." I must conclude with nearly the words of my family motto, which is "*Frangas non flectes*;" and though we "may break" off from useless discussions on such a subject, I cannot "bend" one inch from my own opinions as given. I

am open to discussion on Game fowls and Game Bantams, but am not interested enough in them to discuss other breeds—much at all events.—NEWMARKET.

WOODBIDGE POULTRY SHOW.

WE have received many communications relative to this discreditably managed Exhibition, but have recently declined their insertion because we knew that the company which established it was about to be submitted to a judicial examination. We now refrain from all comments, and merely give a condensation of a lengthy report in the *Suffolk Chronicle*, of the Equity proceedings in the County Court at Woodbridge, on the 12th inst.

"Jeremiah Wright, draper, Woodbridge, and Others versus John Dallenger, accountant, Woodbridge.—This was a plain in equity. The plaintiffs, Messrs. Wright, R. W. Allen, Kemp, Kent, Bannister, & Syson, the Committee of the Suffolk Poultry Society, stated that in March last they and the defendant verbally agreed to form a partnership called "The Suffolk Poultry Society," with the object of holding a poultry show at Woodbridge in May. The show was held accordingly, and a considerable number of specimens of poultry shown, and entrance fees paid and prizes awarded; the defendant received the entrance fees and other sums of money which ought to have been placed to the credit of the partnership and applied in the payment of the prizes and the other debts and demands incurred in the working of the partnership, and the balance, if any, divided among the partners (plaintiffs and defendant). The plaintiffs had frequently requested defendant to apply the money received by him in the above-mentioned manner, and to furnish them with accounts of all the dealings and transactions of the partnership, but defendant had not done so; and by reason of his neglect to do so, on August 31st a plaint was entered in this Court against the plaintiffs and the defendant by a creditor of the partnership for the recovery of a debt due to him, and defendant had been threatened with legal proceedings by other creditors of the partnership. They further said that the defendant had in his possession all the partnership books and accounts, letters, papers, and writings relating to the above-mentioned matter; that the whole of the property, stock, and credits of the partnership did not exceed £500, and that they desired to have the affairs wound up under the direction of the Court, and to have the balance, if any, divided, they being ready and willing, if necessary, to bear their respective shares and proportions of the debts and obligations of the partnership according to the direction of the Court. They, therefore, prayed for a decree that an account might be taken of the partnership transactions and the affairs wound up, that the defendant might pay into Court any monies which might be found due to him under the partnership account, that the partnership debts might be paid out of the assets, and the balance if any, divided among

the parties; and if the assets were insufficient, the plaintiffs and defendant might be ordered to contribute in such proportion as should be just to a fund to be raised for the payment of such debts and liabilities.

"The defendant, in answer, filed a statement in which he said that the partnership, called the Suffolk Poultry Society, was formed on June 17, 1863, that no dividend had been declared at any time, nor had the Society ever been dissolved. He admitted that a show was held in May, and some entrance fees paid, but others, and also other monies were still unpaid; that he had received some of the entrance fees, and other sums of money which he had placed to the credit of the Society, and applied in paying prizes awarded, and in other debts and demands incurred in the working of the Society according to a balance-sheet and account of receipts and expenditure he filed, and that he had received certain other sums not inserted in the accounts and balance-sheet, which he was ready to account for, and charged himself with as credits against the balance due to him from the Society. He denied that frequent applications had been made to him for accounts, or that he had neglected to furnish the accounts, but on the contrary, had furnished the plaintiffs with a balance-sheet and accounts, and also sent a printed copy to every prizetaker at the show, and every member of the Society who had paid his subscription. He admitted that he had the books, &c., in his possession, and divers writings, &c., but not all of them, which he was ready to produce to any Court having jurisdiction in the matter. He alleged that the credits of the Society exceeded £500, the present ascertained amount of such property, stock, and credits being £515 8s. 10d., and to this was to be added other monies not included in the balance-sheet, and he therefore submitted that the Court had no jurisdiction. He further submitted that divers other members of the Society and co-partners should have been joint plaintiffs in this suit, and that upon the winding-up of the Society and a dividend being declared (if any), every other member of the Society who had not forfeited his membership would be justly and equitably entitled to a proportionate share of such dividend as well as the plaintiffs, if they were equitably entitled; that two of the plaintiffs—namely, R. W. Allen and G. Bannister, had forfeited their privileges as members of the Society in not having paid their annual subscriptions. He further stated that he was solicited by the plaintiffs to be secretary to the Society, with the understanding that he was to be paid for his time and services, and he had only charged the Society clerk's wages for his time, and he was entitled to be paid £32 10s. 4d. due to him, and the remaining debts and liabilities should be equally borne by all its legal members.

"A voluminous account accompanied the answer. The defendant charged at the rate of 10s. 6d. a day, or 1s. an hour for his services.

"After a long argument, the Judge, J. Worledge, Esq., decided that the exhibition of 1866 was entirely independent of all the previous exhibitions, and he should order that the Society be dissolved as from October 10th last, and that it be referred to the Registrar to take the following accounts: 1st, an account of the credits, property, and effects now belonging to the partnership; 2nd, an account of the debts and liabilities of the partnership; 3rd, an account of all monies received by the defendant on account of the said partnership since the 9th February, 1866. The subscriptions of former years would not be on account of this partnership. He would put it 'on account and in reference to the Poultry Show held in May, 1866.' 4th, An account of what would be a reasonable remuneration for his services as secretary to the partnership. 5th, A similar account for the three previous years, taking each separately. The next question was the appointment of Receiver.

"Mr. Wright, accepted the office without remuneration, was appointed, and the further proceedings adjourned to the January Court."

THE WALSHALL POULTRY AND PIGEON SHOW.—The Committee of the Walsall Poultry Show have just issued the prize schedule for their next meeting. The Exhibition last year having proved a complete success, its promoters have now published a prize list that will tend greatly to advance it to the foremost ranks of such undertakings. Fifteen silver cups are comprised in this year's schedule, besides a very considerable amount of money prizes that must tend greatly to increase the number of entries. The Volunteers' Drill Hall, at Walsall, presents everything that could possibly be required for the purposes of a poultry show, and so spacious is it that no doubt two thousand

pens might be accommodated were it found requisite. That every encouragement may be given to exhibitors, not only do the managers print the names of a most respectable and responsible Committee on their prize sheet, but also state the addresses of the three gentlemen engaged as the Judges.

A HINT.

I ADVERTISED for Ducks in "our Journal," and amongst a host of offers, selected one which appeared very tempting. The writer said he "had much pleasure in offering me a pen of very first-rate Aylesbury Ducks bred from first-prize Birmingham; drake weighing 9 lbs. 7 ozs. and Ducks 8½ lbs. each: four birds for 30s." The address given was 115, Albany Street, Regent's Park. Having occasion to be in that neighbourhood, I wrote to the address, making an appointment to call and look at the birds: and I discovered that the house is a post-office, the letter I had written was there with others awaiting a claimant, and the post-master told me no one of the name given was known in the neighbourhood. The name of the person writing to me is "Wm. D. Griffin," and he requests a money order to be sent to G. P. O., as "he goes into the City daily." It is needless to say I neither sent the money order, nor have I heard anything more of the man or his Ducks.—*Esomcr, Parsonage.*

THE DIFFERENT VARIETIES OF GAME FOWLS.

(Concluded from page 376.)

RED FURNESSES, or the Red Mullingar Game, as they are often called, are marked with large fire-coloured patches, or red cinnamon patches on a white ground; have red or yellow eyes, and yellow or white legs. They are a rare sort, and are nearly as quick birds as the Piles when good. Red-eyed are the best birds of course.

CUCKOOS are also rare, I have not met with any of them pure bred, but have seen the Cuckoo Pile cocks, or Yellow Cuckoo Piles, as they are called, with yellow legs, and the yellow or daw eyes generally. All the spangled-backed cocks of the Black-breasted Red colour are crossed with the Cuckoo Piles, but are not first-rate birds, nor are any Cuckoo-coloured Game.

SPANGLES or **SPOTTED GAME** are of various colours, generally having black spangles on a cinnamon or silver ground colour. These are too much crossed to be good.

POLECATS are of various colours, but are generally of the Partridge mixed with black or dark-coloured patches, and are most commonly dark-legged, while the Spangles are most frequently blue-legged. These two sorts have all the different colours of eyes, except black eyes, which are peculiar to the sorts that hatch the dark chickens.

BLACKS, I omitted to state, were probably originally bred from the Black-breasted Reds crossed with the black-eyed sorts, to which they are certainly allied by the colour of their eyes being black. There are also the Dark-faced or Gipsy-combed Blacks, nearer still to the black-eyed sorts, and these are, perhaps, the best, truest-bred, and gamest sort of the Blacks, but are not common. Some breeders say that Blacks are bred from the Black-breasted Red cocks with the black-bodied Brown Red, or Dark Birchen hens, which is probable.

The Hen-tailed sorts of Game fowls are generally small, and are mostly found in the north of England, but are rare. They are of various colours in the hens—Partridge, Cinnamon, Polecats, Spangles, Pied, and other colours, and are very hard, active, and good Game birds, but are not at all beautiful, wanting the Game long tail.

The Tassel or Tufted Game fowls are of various colours, "Brown Reds, Ginger, Partridge, Duckwings, and others," and are good birds.—*NEWMARKET.*

MANCHESTER POULTRY AND PIGEON SHOW.

We remind intending exhibitors at the Manchester Show, that entries close on the 28th inst. That this year's meeting promises to eclipse its predecessors is generally admitted, and when we again call to our readers' recollection, that in a great number of instances prizes of the value of £10 are offered as first premiums, supported by additional prizes of £4, £2, and £1, we cannot doubt but that a great amount of competition

will ensue. It must not be forgotten, too, that now Manchester Show is established as one of the greatest poultry exhibitions of the day, prizetaking at this Show invariably leads to sales of all winners' surplus stock at remunerative prices. Another most commendable feature is, that not only are the birds exhibited in most commodious buildings, but that every possible comfort is given to the poultry during their stay, regardless alike of outlay or trouble; whilst another recommendation is Messrs. Jennison's first rule, that "Judges of acknowledged experience and ability will be appointed."

"NEWMARKET" AND MALAYS.

THERE have been several points in Malays that I had been intending to notice, but have delayed doing so. Now I must commence with a word or two on "NEWMARKET's" rough notes on the "Standard." "Malays are a most worthless variety of poultry, being great, cowardly, coarse, yellow-fleshed birds, though not bad layers, but worst for table of all." The italics are my own. It is useless, perhaps, disputing many of these points, they are simply differences of opinion; but in these rough notes the writer has been so sweeping in his condemnations, that one is tempted to inquire whether, as in grandmother's coffee-pot, there are any grounds for all that is written. It surely ought not to be necessary to raise the character of one breed on the demerits of the rest. Game have plenty of admirers, and so long as there are Englishmen there will be Game lovers. May their shadows never be less! There are many of our breeds of poultry in which size is a necessary quality. That these are "large" is no fault, nor is coarseness any necessary adjunct of this size. This, I think, every breeder of any experience will allow. The limbs certainly will be larger, it is necessary for the extra weight. I cannot say that I consider the flesh of the Malays as yellow, whilst as to its flavour I certainly consider it first-rate, juicy, and tender when young, whilst they truss up very well.

But "NEWMARKET" has given Malays another character, which is so opposite to all I have ever heard of or seen in them, that I am at a loss to reconcile the conflicting opinions. He calls them cowardly. I almost fancy this has slipped out accidentally. Speaking disparagingly of any animal after "great," "cowardly" comes naturally, but certainly my experience does not bear out the character. I call them, cocks and hens, terrible birds to fight, quite objectionably so for prize poultry. I never saw hens fight with more determination. The young cockerels fight among themselves most fiercely, quite as much so as do Game cockerels. A friend of mine who had spent many years amongst the natives in India, hearing that I had some Malays, came to inspect them. He told me that the natives always used Malays for their cock-fighting diversions, and that they fought most gamely. He told me—it might be drawing the long-bow—but he said that the natives had one strain noted for killing their antagonist; then, scratching a hole in the sand, they push the vanquished foe into it, and terminate the rites of sepulture by mounting the dead body to crow! If they did not thus act the natives would soon make curry of them. I think these ideas of the natives certainly bear out the opinions of those who have kept Malays in this country—that they are by no means chicken-hearted; indeed, I still think that this epithet slipped out accidentally from "NEWMARKET."

Now to a matter less controversial than the epithets of "NEWMARKET," which, by-the-by, I notice, have ruffled the feathers of some other breeders besides myself. It is a well-known fact, that in the rapid-growing varieties deformities are liable to occur. It is also a common failing in the Poland races, but I have never seen such a wholesale case of deformities as in one set of my Malay chickens, about thirty in number, for in spite of their careful bringing-up, they are, like some two-legged unfeathered beings, turning out very badly—the line of beauty in a variety of forms, but of the wrong sort; wings growing out and going over, like some turncoat in politics, to the opposite side; tails that look as if they had been constantly in use to wipe one eye and neglect the other; hips varying in height and defying any attempts of the cook to make a "good appearance." These are some of the results of very careful management. Some of the same chickens reared at another run are straight and perfect. The error would, therefore, seem to be in the establishment where the deformities have appeared, and there, I think, I have discovered the cause. The chickens there have the run of a small yard

opening into a field, the communication being through a hole in a door. This hole is nearly a foot higher than the bottom of the door, and was originally intended for poultry years before Cockerins ever crowded in this country. I do not recollect that any of the produce of the Minoras of those days turned out so fundamentally wrong. I have before stated my own observations of Malays, that they are shy. The advent of a stranger to the yards has been the signal among the small fry to make pell mell for the hole; sometimes it was a dead heat between a pair with imminent risk of a dead lock in the hole, half in, half out. Of course, the struggles for priority were fierce, and in these contortions of the body some of the lateral muscles appear to have obtained undue strength, and the most misshapen forms have resulted. Yes, "NEWMARKET," these are "ugly," nay, worse, they are painfully ugly, an eyesore and a heartsore. These are "gawky" if you will! but the others—oh, no! and Malay love did not take me at first sight. Nay, perhaps once I agreed with "NEWMARKET," as I think the first lines written under my "Persian" name contained a comment on their "ugliness."

"NEWMARKET" adds in one paper the opinion that their feathers need not be as hard as the Game. Is not this an error? Is not the feathering particularly hard and close?—Y. B. A. Z.

P.S.—Lucky man "NEWMARKET," and man, I think, you must be, to be a Game fancier! We have no lady Game fanciers. Lucky man, I say, to be so game; but now you need to be game. Why there is not a bird in our yards, and apparently few owners, whose feathers are not ruffled and showing fight. You will need all your Game qualities, my friend. Better, perhaps, have upset an "Egyptian" hive with its game inhabitants always eager for the fray, than have run foul (no pun), of the motley group of "non-ornamentals" ready to peck your eyes out. It is not, I apprehend, pleasant even to the valiant Game to have a full-weighted Dorking, Cockerin, or Brahma opposed to him. What must it be for you, friend, when these, added to Spaniards and Hamburgs, neither very deficient in courage, hover round your flanks! These reflections came over me as I read in this week's issue (Nov. 6th), the clarion notes of the "non-ornamental" poultry. I wish you safely out of the wood, "NEWMARKET;" at least may they give you breath to finish the Game emendations!—Y. B. A. Z.

NEW SHOREHAM EXHIBITION OF POULTRY AND PIGEONS.

THIS Show was opened on Monday, the 12th inst., at the Swiss Gardens, Shoreham, and proved a very great success, the entries in most of the classes being unusually large. This may be accounted for in some measure by the fact, that in almost every instance five prizes were offered in each class, besides cups for the best pens in certain combinations of classes. This caused, of course, a competition for the less valuable prizes—viz., the fourth and fifth, that few persons would imagine, adding very much to the difficulties of awarding such premiums, and sadly encroaching on the limited time given the gentlemen who officiated as Arbitrators. This, combined with the fact that the after part of the day proved very dull and rainy, caused the arbitrations to extend to a late hour. We much regretted to notice, that by some oversight of a considerable number of exhibitors a couple of hens were sent for competition instead of a single one only, consequently disqualification ensued in all such cases. No amount of care can be considered as wasted in consulting specially every prize list before any entries are made.

The show of *Dorkings* was peculiarly good, scarcely a second-class bird being exhibited; but, perhaps, the most well-earned successes were those in the classes for both Dark and Light *Brahmas*, the number of pens competing being beyond precedent, and the quality throughout of these classes could only be appreciated by those individuals who visited Shoreham. Messrs. Boyle and Pares were the chief prizetakers in these classes, but the whole of the *Brahmas* shown were unusually good. Many of the *Game* fowls were excellent, and the *Cochins*, both Buff and Partridge-coloured, were capital, with the exception of the sweepstakes class for single *Cochin* cocks, in which only a single White one put in an appearance, and it evidently proved that "sweepstakes" are by no means popular among breeders, a fixed amount as a prize, however small, invariably obtaining a preference. The Selling class alone consisted of upwards of forty pens, and comprised breeds of many rare varieties and of unusual excellence, although the sale price was limited by the rules to 80s. per pen. It was evident that many of those fowls were quite equal to winning in any general classes, or in some for the rarest breeds, and that they were absolutely worth some pounds beyond the price at which they appeared as entered in the catalogue.

In the classes for *Aylesbury Ducks* and for *Turkeys*, the excellence

throughout was remarkable, so much so that the competition has been rarely excelled.

In *Pigeons*, the Shoreham Exhibition stood far in advance of the generality of shows, although the number of classes was unusually limited.

DORKINGS (Any colour).—First and Cup, Capt. Lane, Bracknell. Second and Fourth, Sir P. Burrell, Bart., M.P., West Orinstead. Third, Marchioness of Bath, Findon, Sussex. Fifth, B. P. Brent, Parkhurst, Buxted, Uckfield. Highly Commended, Marchioness of Bath. Commended, W. Stanford, Steyning; Messrs. E. & A. Stanford, Eatons, Ashurst; H. Walker, Shenfield, Brantwood; W. Stanford.

BRAHMAS (Dark).—First and Second, R. W. Boyle, Bray Co., Wicklow, Ireland. Third, W. Hayreaves, Bacup, Manchester. Fourth, J. Wright, Woodbridge, Suffolk. Fifth, Capt. Lane. Highly Commended, Capt. Lane. Commended, C. Cork, Shoreham, Sussex; Capt. Lane; H. Lacey, Hobden Bridge, Yorkshire.

BRAHMAS (Light).—First and Second, J. Pares, Postford, Guildford. Third and Fourth, Messrs. R. & E. Ede, Worthing. Fifth, H. Dowsett, Fleethy, Chelmsford. Commended, Messrs. R. & E. Ede; J. Pares.

GAME (Black and Brown-breasted Reds).—First and Cup, J. Smith, Breeders Hill, Grantham (Brown Reds). Second, W. Boyce, Beverley, Yorkshire (Red). Third, S. Matthew, Stowmarket (Black Red). Fourth, E. Aykroyd, Bradford, Yorkshire (Red). Fifth, F. Pittis, jun., Newport, Isle of Wight (Black Red). Highly Commended, W. W. Pyne, Lanching (Black Red); A. Fenton, Crimble Hall, Rochdale. Commended, J. Mason, St. Clement's, Worcester.

GAME (Any other variety).—First, H. C. Musters, Cobb's Hill, Battle. Second and Fourth, W. W. Pyne (Duckwings). Third, J. Jeken, Eltham, Kent. Fifth, T. Whitaker, Melton Mowbray (Piles).

COCHINS (Cinnamon and Buff).—First, R. W. Boyle (Buff). Second, J. Cattrell, Birmingham (Buff). Third and Fifth, Rev. W. C. H. D'Aeth, Reading (Buff). Fourth, D. Young, Leamington (Buff).

COCHINS (Any other varieties).—First and Cup, E. Tudman, Ash Grove, Whitechurch (Partridge). Second and Fifth, Mrs. A. Williamson, Queensborough Hall, Leicester. Third, J. C. Phair, Southsea (Partridge). Fourth, J. Gardiner, Bristol (White). Highly Commended, Mrs. Clarke, Bedford. Commended, J. Rodbard, Writington, near Bristol.

SPANISH (Black).—First, R. Wright, Holloway Road, London. Second, H. Beldon, Goffstock, Bingley. Third and Fourth, Messrs. R. & E. Ede, Fifth, H. Walker. Highly Commended, J. Coester, Chatham; J. Rodbard, Commended, Rev. J. M. Rice, Bramber Rectory.

HAMBURGERS (Gold-pencilled).—First, H. Beldon. Second, J. W. Cannan, Bradford. Third and Fifth, W. W. Pyne. Fourth, F. Pittis, jun.

HAMBURGERS (Silver-pencilled).—First, J. W. Cannan. Second, H. Beldon. Third, T. S. Saltmarsh, Chelmsford. Fourth, J. W. Stratford, Exeter. Fifth, J. Preston, Alerton, Bradford.

HAMBURGH (Golden or Silver-spangled).—First and Cup, J. Roe, Hadfield, Manchester. Second, J. F. Loveridge. Third, H. Beldon. Fourth, J. W. Cannan. Highly Commended, Mrs. Brassey, Beaufort Battle.

GAME BANTAMS.—First, J. B. Francis. Second, J. S. Rawlings, Halifax. Third, W. W. Pyne. Fourth, R. E. Toder, Newark. Fifth, W. S. Forrest, Eagle Cliffe, Greenhithe. Commended, G. Manning, Springfield, Essex. C. Ashworth, Halifax; W. W. Pyne; J. Statter; Miss E. M. Webster.

BANTAMS (Any other variety).—First, S. Mossop, Long Sutton, Lincolnshire (Cochins). Second, Mrs. Saltmarsh, Chelmsford (Seybrights). Third, T. C. Harrison, Hull. Fourth, H. Draycott, Humberstone, Leicester (Black). Fifth, E. Cambridge, Bristol (Black).

ANY OTHER VARIETY.—First, S. A. Wyllie, East Mousley, Surrey. Second, National Poultry Company, Bromley, Kent. Third, F. W. Zurborst, Donnybrook, Dublin (Sultans). Fourth, Col. S. Wortley, Grove End, Road, London (French). Fifth, J. Hinton, Hinton near Bath (Silver Polands). Very Highly Commended, R. W. Boyle (La Flèche). Highly Commended, National Poultry Company (La Flèche); Col. S. Wortley (Houdan); F. Puckridge, Higham Court, Woodford, Essex (Houdan); Marchioness of Bath (Silkies); H. M. Maynard, Ryde, Isle of Wight, (Houdans). Commended, National Poultry Company, (Crève Coeurs); Marchioness of Bath (Silkies); W. Stanford (Guinea Fowls).

SELLING CLASS.—First, Rev. P. W. Storey, Daventry (White Bantams, feather-legged). Second, J. C. Phair (Game Bantams). Third, Messrs. E. & A. Stanford (Dorkings). Fourth, Marchioness of Bath (Red Game). Fifth, W. W. Pyne (Duckwing Game). Highly Commended, W. W. Pyne (Duckwing Game, Brown Red Game); Messrs. R. & E. Ede (Spanish); T. Dyson, Halifax (Spanish); G. Boniface Ford, Arundel (Game Duckwing); W. Stanford (Dorkings). Commended, J. Jenner, Lewes (Spanish); J. Preston; Messrs. R. & E. Ede (Light Brahmas); W. H. Walker (Dorkings).

SWEEPSTAKES FOR SINGLE COCKS.

DORKING.—First, R. Sellings, Littlehampton. Second, Messrs. E. & A. Stanford. Third, C. Cork, Shoreham.

BRAHMA.—Cup and First, R. W. Boyle. Second, J. Statter. Third, C. Cork. Highly Commended, E. Pigeon, Lympstone. Commended, F. Crook, Forest Hill.

GAME.—First, H. C. Musters. Second, R. Harwood, Littlehampton (Black Reds). Third, Mrs. P. Iremonger, Clatworth, Goodworth, Andover (Cheshire Pile).

COCHIN.—Prize, J. C. Phair (White).

BANTAM.—First, J. Statter (Black Red). Second, Messrs. Ward and Littlewood (Red). Third, J. Bunde, Fareham, Hants (Black Red). Commended, G. R. Davis, Manchester (Black Red).

DUCKS (Aylesbury).—First and Second, Mrs. Seamons, Hartwell, Aylesbury. Third and Fourth, Capt. Lane. Fifth, Rev. W. C. H. D'Aeth. Highly Commended, T. Patterson, jun., Melrose, Roxburghshire; Mrs. Brassey.

DUCKS (Any other variety).—First, T. C. Harrison. Second, Mrs. Clarke (White Peruvian Mus). Third, H. Humphrey, Ashington (Rouen). Fourth and Fifth, W. Stanford (Black and Black East Indian). Highly Commended, W. R. Bull, Arundel, Sussex (Rouen); S. H. Stott, Rochdale (Rouen); Mrs. Clarke (White Peruvian Mus). Commended, J. Dudgey, jun., Portlade (Muscovy); J. Oliver, Warbleton (Rouen); C. Pease, Darlington (Rouen); F. Pittis, jun. (Black East Indian).

TURKEYS (Any colour).—First, Marchioness of Bath. Second, T. Morris, Hayes Common, Kent (American Bronze). Third and Fifth, Lady M. Macdonald, Woolmer, Hants. Fourth, J. Hills, Hurstpierpoint (Speckled). Highly Commended, Mrs. Dunn, Inglewood, Hungerford; T. Morris, Hayes Common, Kent (American Bronze); B. P. Brent (White); Sir P.

Burrell, Bart., M.P. (Black and Brown); Marchioness of Bath; H. Humphrey.

Pheasants.—Carriers and Dragons.—First, R. Fulton, Deptford (Carriers). Second, H. Yardley, Birmingham (Carriers). Third, C. Cork (Black Carriers). Fourth, C. Bulpen, Bivamide, Bridgewater (Carriers). Fifth, L. B. Henderson, Worthing (Carriers, Cinnamon). *Any other Variety.*—First and Second, R. Fulton (Powers and Barbs). Third, S. A. Wyllie (White Owls). Fourth, H. Yardley. Fifth, C. Cork (White Fantails). Highly Commended, F. Waitt, Birmingham (Yellow Jacobins); H. W. Hale, Croydon (Black Bards); S. A. Wyllie (Silver Runts); J. Ford P. Jones (Persians). Commended, C. Bulpen (Almond Tumblers); H. Vine, East Cowes (Archangels and Trumpeters); B. P. Brent (Blue Turbitts); H. W. Hale (English Tumblers); H. Yardley; S. A. Wyllie (Blue Owls); P. H. Jones, Fulham (Barbs); F. Waitt (White Owls); J. Ford, Monkwell Street, London; P. Jones (Turbitts); F. Broemel, Ladywell, Lewisham (Siberian and Russian Porcelain).

CANARIES.—Clear Norwich.—First, Second, Third, and Fourth, W. Walter, Winchester. Fifth, G. Y. Collinson. Highly Commended, H. Apted; G. Y. Collinson; C. Cork. Commended, C. Cork; V. Ward; W. Phillips; G. Y. Collinson; G. Moore. *Belgian.*—First and Second, C. Nicholson, Landport. Third, W. Phillips, Old Basford, Nottingham. Fourth, H. Vine. Fifth, S. Tomas. Highly Commended, W. Walter.

Mr. Edward Hewitt, of Sparkbrook, near Birmingham, and Mr. W. B. Tegetmeier, of Muswell Hill, London, were the Judges.

ARTIFICIAL HATCHING.

You have frequently asked for information on this subject, and I know there are numbers who would be glad to see something of the experience of any who have tried the system. I much fear the extreme paucity of replies is conclusive of non-success. As there are incubators on several plans advertised, there must certainly have been many trials during the past year or two.

Now that provisions of all kinds are so high in price, and likely to continue so, the economical rearing of poultry has become a subject of considerable importance to the country; therefore positive information in detail of success or non-success would be very welcome. The communication at page 357 by "Cæxæ Cæxæ" is very well as far as it goes, but it is not sufficient; there is no detail, it is not definite enough. I should like to see clear information on the following points:—

The number of chicks hatched from a given number of eggs.

The kind of incubator used, whether top or bottom heat, and other arrangements.

The heat applied, whether by gas or lamp, and the mode of regulation.

The variations of heat by the thermometer.

The cost of the light for the time of hatching.

My own experience, so far, in artificial hatching is not very favourable. My first attempt was with the eggs in a drawer under the hot water; the water was heated by gas, the jet being in a little chamber at the side of the incubator. I found it impossible to regulate the heat, I supposed in consequence of the variations of pressure at the gas-works; during the day I could keep it nearly regular, but in the night pressure was increased by people putting out their gas; the consequence was, the eggs were cooked, or rather killed. I believe the only way to use gas successfully would be to supply it from a gas bag, in the same way as railway carriages are lighted.

I next had an incubator made after Mr. Geyelin's plan, as illustrated in his report to the National Poultry Company. The light is in a tin box underneath a tray of water, in the water is a tray containing the eggs (twenty-four) on sand. I used paraffin oil, having a small shilling lamp, which required filling twice a day, trimming at the same time; the heat was about 105° to 107° during the day, but as high as 112° once or twice. During the night it would often fall to 90° and lower. Covering the incubator with a rug made it a little better. The produce was five chicks. There were about fourteen dead and partly-formed chicks in the shells. To save trouble I had a lamp made to hold sufficient oil for about ten days, and then tried three times, twenty-four eggs each time, without obtaining a chick; the wick was troublesome, often becoming fouled, then blazing up; the heat would vary from below 90° to 112° or more. In the last attempt I made a little alteration to prevent the lamp fumes reaching the eggs. The heat never rose above 110° or fell below 90°, its variation, as a rule, was from 95° night to 108° day, still I did not obtain a chick alive or dead. At the same time I set two Brahma hens, which brought twenty-one chicks from twenty-four eggs.

The cost of the oil was from 8s. to 8s. 8d. each hatching, the quantity being a gallon, less half a pint.

I know several parties who have tried and failed like myself. There is evidently something in the physiology of natural hatching which we do not understand and do not imitate. To be successful we must obtain at least ten chickens from twelve eggs—not once, but repeatedly. If any one does so, and would clearly state how, and at what expense, he would be a general benefactor. It may do to raise half a dozen chickens from twenty or thirty eggs as an interesting experiment, but not as a paying matter. What is wanted is a system of certainty, easily worked, which can be applied on a large scale for a commercial profit. When the chickens are hatched they can be reared, that is certain—with the exception of the usual casualties.—CHARLES H. BROWN, *Southport*.

HYBRIDISATION.

THE note of a "SOUTH LANCASHIRE BEE-KEEPER" in last week's Journal reminds me of an inquiry which I have for some time wished to make respecting hybrids.

My own experience has been very limited, but I gather from what has been written at various times that the influence of the mother bee upon her progeny largely preponderates at first, but gradually diminishes, while the drone influence gradually increases. To what extent this is the case, and whether in its turn it finally preponderates, is one point on which I ask for information.

Thus, where a Ligurian queen is crossed with a black drone, the progeny at first take almost entirely after the mother, and both in form and colour cannot be distinguished from pure Ligurians. Perhaps one bee out of five or six is dark in colour, but most even of these have the characteristic Ligurian shape; but I gather that in the second, and still more in the third year, the orange bands become more irregular and imperfect, and the proportion of black bees increases. May I ask whether with the colour the form of the progeny also alters? The most singular case is that recorded by "B. & W." in which, if I remember rightly, a Ligurian queen bred perfectly pure bees for two seasons, and the third year degenerated. If my memory is correct as to the facts, I should hazard the suggestion that this might be a case of breeding back, and that the cross occurred in the previous generation. Be that as it may, we have heard very little of the opposite cross, in which the queen mother is a black bee. Will some one who has kept such queens kindly state whether in this case also the orange-banded bees, which at first are rare, become more numerous? and what proportion they bear to the black bees—say in the third year, or as far down as the queen can be traced? and, especially, if, along with the colour, a change occurs in the form?—F. H. WEST.

["A DEVONSHIRE BEE-KEEPER" cannot impart information on this point, as he always removes hybrids as soon as possible.]

BEEES VERSUS DRONES.

I HAVE frequently been very much interested by some of the very able letters from your correspondents on bees, though it is very rarely any of them say much for the lords of the bee creation, the drones. I believe it is now an admitted fact that drones (and they may be counted by thousands in every hive, especially those upon the non-swarming system), are worse than useless, as they not only do not work, but consume many pounds of honey each season. I wish to ascertain from some of your practical bee-masters whether their opinion is in favour of killing the drones, leaving only about a hundred for the queen.

I have for some years past applied a small contrivance upon each of my hives, for catching the drones without in the least interfering with the working bees, but I hesitate to make it known to your correspondents, not knowing the light in which it will be received, as I fear there is much diversity of opinion even on this question. Will Mr. Woodbury, and some other of your scientific bee-masters, give me their ideas upon the subject, whether the drones ought or ought not to be exterminated? I will add that from those hives which have been deprived of their drones I have invariably obtained the greater amount of honey.—C. H. E.

IPSWICH POULTRY SOCIETY.—We are informed that all specimens were duly sent off on the Friday evening, the last being delivered to the railway company by twelve o'clock, in time for

the night mail. The Secretary's entries were not for competition. The Poultry Company's birds were not sent, owing to an oversight.

DOINGS IN A SMALL APIARY IN 1886.

AT the commencement of the year my apiary consisted of three black stocks of bees, A, B, C, in common round straw hives; two of these were very strong in bees, the third not over-strong.

A, a two-year stock, threw off a very fine swarm on the 20th of May, and although this stock gave no more swarms, it gained in population. In June, seeing so many bees lying out idle, I was induced to place on it a five-inch bell-glass. This was not taken possession of until the 10th of July; ultimately it gave me 1½ lb. of sealed honeycomb.

B, a one-year stock, was used as a non-swarming hive, in which I was successful early in May. It was taken off its board, and placed on the top of a duplex nadir hive (Rev. W. Law's), having slides giving communication to the under boxes, and thence out, the usual entrance of the stock hive being closed for the time. The results were no swarm, very strong in numbers, and a yield from the nadir-boxes of 3½ lbs. of honeycomb well sealed, no brood, and only a small portion of pollen stored in the combs, and that not until the close of the honey season. On the 20th of August, seeing that the bees were consuming the honey stored in nadir-boxes, the nadir hive was taken away, the stock hive weighed and set down in its original position, on the single pedestal-stand, for wintering and similar operations next season. On the 10th of August the bees of this hive were observed to be driving out the drones.

C, a two-year stock; its weight, without bottom boards, was on April 25th 16 lbs. Drones seen at this hive for the first time on the 16th of May, and on the 8th of June it threw off a fine swarm, on the 21st of June a cast, and, although hived, it returned to the parent hive the same day. On the 23rd of June three dead queens were picked up in proximity to this hive, and which were supposed to have been ejected from it. At the end of June, seeing, as in the case of A, many bees lying out idle, a bell-glass was put on; and on the 15th of July they began building comb, and eventually built and stored one comb with honey, but did not seal it. This was allowed to remain until they had consumed the honey on the 18th of August. At this hive the bees were observed to be driving out the drones.

D, a first swarm on the 20th of May from A, hived in a square straw bar hive of home make. This hive was filled in five weeks, the usual 13-glass super placed on the top. Three combs were built and stored, a fourth commenced, when, on the 13th of July, it broke down, the combs parting from the bars irregularly (about one-third from the under side of the bars). This accident occurred in my absence from home. Judge, then, with what surprise I was informed on my return of there being something wrong with this hive. The servant had noticed in the evening honey running from it, and had placed pans under. On going into the garden to look at the state of matters I found the poor bees apparently all out of the hive, clustering under it, also all up the front of the case to the roof. Of course the question arose, What was to be done? The appearance of such a mass of bees was calculated to make one feel nervous. If not nervous I was nonplussed, for several reasons—one being that I had no spare hive; and another, that I knew business compelled me to be absent from home early, as also for the greater part of the next day. Considering that if the hive were left in its then state I should have sad fighting amongst my bees, and in all probability even then should not be enabled to deal with them, I came to the resolution to set to and try to remedy matters, late as it was (it had now grown dark); so I placed a light a yard or two off, removed the roof-cover, then took an old empty straw hive, held it over the moving-up mass in front by resting one edge on the edge of the case, then gently commenced tapping the hive-case near its base. This had the desired effect of driving a large quantity of bees into the hive so held. When I found that I could not drive any more up in this way it was removed and set on one side; next, the casing was taken off with many bees still upon it. Those clusters under the hive floor and down the stand were not interfered with. And now having got at the hive, on looking in at the windows a sad sight appeared—combs leaning here and there, with very few bees to be seen. The super I found contained a large quantity of

bees, so I ran in the slides and off with super and crown-board in one, so as to reach the stock hive more readily. Here, as I was aware they had built combs crosswise of the bars, I could not do anything from the top: hence I lifted it off the board on to another, cleared away the fallen combs (examining each in case the queen should be amongst the mass), then cleaned the floor-board, replaced the hive, now two-thirds empty of comb, then its super, and the roof-cover on the top. I then destroyed what trace I could of the mishap around the stand. The next day I had the satisfaction of finding that her majesty was not absent, also that most of her subjects had made for the interior. In a day or two afterwards a stranger could not, from outward appearances, have known that the misfortune had taken place. The super was abandoned by the bees, but in the hive itself comb-building was carried on with rapidity. On the 18th of September they were driven into a new square straw bar-frame hive, making use of spare comb, and feeding up to 25 lbs. (12 lbs. honey, 13 lbs. sugar and water). They have built comb, stored the food given, and sealed part. I am pleased to add that to all appearances they are doing well, and now on fine days carrying in much pollen. Do you think they are likely to go through the winter? I should add that for a single stock they are strong, having hatched out brood when driven.

E, a first swarm from C on the 8th of June, was hived in a square straw bar-frame hive, also of home make and 14 inches square, strong in numbers and well provisioned. This stock is set by for wintering; the only doubt about it is the wooden top or crown of the hive. It has four openings for bell-glasses. Would it be advisable to allow one or more of them to remain open with a glass on during the winter?

I also wish to add my testimony to the facility of driving. On the 4th of September A was driven into a new round straw hiven, on the 18th of September D into a new square straw bar-frame hive (having three windows it was watched with much interest); on the 19th of September C was driven into a new round straw hive—in each case no mishap or sting, indeed I have throughout the season escaped. Two of these driven lots, A and C, have been given to working men as an inducement to adopt the better system, also as a proof of driving, to obtain the honey without having recourse to the brimstone-pit. Both are strong in numbers, and when driven the brood was found to have been all hatched out. They have been fed with 47 lbs. sugar and water, have built and stored the combs with the food given, and on most fine days were seen to take in pollen. Their respective hives have gained in weight up to the 23rd of October, in the case of A 18 lbs. nett, and C 22 lbs. nett. Seeing that so much has been done by these driven bees, I think they may stand through the winter. Of course, had in each case a second lot been added, they would have stood a better chance; nevertheless, I should feel obliged by your opinion. Will common brown sugar answer for feeding driven bees?—*Novice, South Northamptonshire.*

P.S.—My yield of honey and honey in comb is 92 lbs. from four stocks, exclusive of 14 lbs. returned to D.

[We think you managed to remedy the misfortune of the 18th July very cleverly; nor does there appear any reason why all your stocks of driven bees should not survive the winter. There can be no doubt, however, they would have a much better chance of prosperity had they been doubled or trebled at the outset, and we, therefore, never attempt to winter a single stock of driven bees. There is no objection to one of the openings in the crown-board remaining open with a piece of perforated zinc and a bell-glass over it during the winter, provided the glass stand in a feeding-trough or similar receptacle, so as to prevent the moisture which condenses on it from finding its way into the hive. We have never tried common brown sugar for feeding driven bees.]

WOLVERHAMPTON POULTRY SHOW.—We are pleased to learn that the Committee of this Show, after having paid the whole of their liabilities, have the handsome sum of £51 7s. 7d. balance in hand. Such an amount of success rarely attends a first attempt, and, considering the inclemency of the weather when the Show was held, is doubtless much more than expected by the Committee. At a well-attended meeting held on Wednesday last it was unanimously decided to hold another Show in October, 1887; and the Mayor of the town, J. Morris, Esq., willingly undertook the office of President.

BRISTOL AND CLIFTON POULTRY SHOW.—Twelve silver cups are offered, besides money prizes. Those exhibitors who have not received schedules should apply at once to the Secretary. The entries close December 15th. (See advertisement.)

OUR LETTER BOX.

SPUR OF DORKING COCK (A. K. C.).—The spur being outside the leg of a Dorking cock is a serious objection, and one that should prevent such a one from being exhibited. A judge could only award a prize to such a bird when he was tied to a choice of difficulties, and had a class of imperfections to choose from. This query was accidentally overlooked.

FOOD REQUIRED FOR FOWLS (A Reader).—You should have stated whether, although the farmyard is a small one, thrashing is going on at the barn door. The quantity of food to be given must be regulated by that which they find in the yard. They may have either corn or meal or both. Two meals per day should be enough, if the yard yields any food at all. One may be meal, and one whole corn, or when more convenient whole corn may be given for a few days, and then changed for meal. With the advantage of run and yard, a pint of corn should keep each fowl for a week in good condition.

BREEDING FROM BRAHMA COCKRELS AND PULLETS (Tyro).—If they are not akin they may produce fine chickens, but if they are brother and sisters it is doubtful.

INDUCING LAYING (T. T.).—Ground oats slaked with milk, the sweepings of the table-cloth after every meal, cooked meat chopped fine, the gristle and skin of any cooked meat, the knuckle of legs or shoulders of mutton, and the like. There is a more stimulating food—viz., tallow-chandler's greaves; it answers the purpose, but injures the fowl. If you use them the following is the plan:—Chop as much as you wish to give quite fine, put it in a bucket, cover it with boiling water, and then cover the mouth of the bucket with doubled sacks or any contrivance that will prevent the escape of the steam. By the time it is thoroughly sodden it will be cold, and is then fit to feed with.

POULTRY FOR A FARMYARD (Easton Hall).—We have seldom seen a farmyard that had not half a dozen poultry-houses all ready made. Any house that possesses the following qualifications is a poultry-house:—Height from 5 to 8 or 9 feet; water-tight roof of any kind; ventilation just under the roof or within a foot of it; door at one end; earthen or gravel floor; if opening into the yard, and near to stacks and racks, so much the better. The floor of the house should be higher than the level of the yard, and should rise in all directions from the door. A calf-pen often makes a good fowl-house. Roosting on carts and waggons and under sheds and lean-to's is often more favourable to health than a well-appointed house with all modern appliances. If, therefore, the birds are safe from thieves or from foxes, we advise you to let them roost at will. You will have to look after their eggs. Dorkings do well in a farmyard; it is their place. Brahmas and Cochins are hardier, and very good layers. Hamburgs, La Flèche, Houdans, and Creve Coeurs are excellent layers, but do not sit. All the latter lay larger eggs than Hamburgs.

SCALY SUBSTANCE ON FOWLS' LEGS (Tom).—If only scaly remove it by the aid of a sharp knife, and rub the place with mild mercurial ointment. If you fear to cut, apply strong acetic acid to the substance once daily until it can be scratched away, which will occur in a few days if there is no enlargement of the bone. Warts can be removed in the same mode.

CATARH IN HAMBURGERS (D. B. W.).—The sneezing, difficult breathing, and discharge from the nostrils are symptoms of common cold or catarrh, occasioned probably by exposure to the recent extreme vicissitudes of weather. Give them bread soaked in ale, soft food only, and plenty of lettuce leaves. Confine them during cold or wet weather in an out-house.

CHICKEN COEUR FOWLS (C. C. E.).—The best authority is M. Jaques, and he says, "The plumage of the finest specimens quite black, in ordinary specimens partly white and partly yellow. The top-knot usually becomes white at the back." There are full description and drawings in "The Poultry-Keeper's Manual," which you can have free by post from our office if you enclose 7s. 10d. in stamps. Eggs in your account might be charged a penny each throughout the year.

CHILLED BROOD (W.).—We never knew chilled brood communicate a bad odour to the surrounding combs.

SICK BULLFINCH (Iago).—I should think the puffing up of the skin proceeded from some accident which had caused a rupture of some small air-tube, so that the breath escaped under the skin. A cooling diet and rest are all that I can further recommend. Avoid all excitement, whether of food or exercise, until the patient is convalescent.—B. F. B.

BOILING SALSAFT (A Poor Cook).—The root is black outside, and care is required in peeling it before boiling. Scrape it well, taking care to leave no spots, and then soak it in vinegar and water. Fill up a saucepan with water, add to it 1 oz. of butter, four dessert-spoonsful of vinegar, and some salt; set it on the fire, and as soon as the water boils put in the salsaft, and let it boil an hour. Drain, and if it is whitish serve with white sauce; if dark, then with brown sauce.

POULTRY MARKET.—NOVEMBER 19.

We have still but a sorry trade. The supply of Pheasants is larger as the season advances.

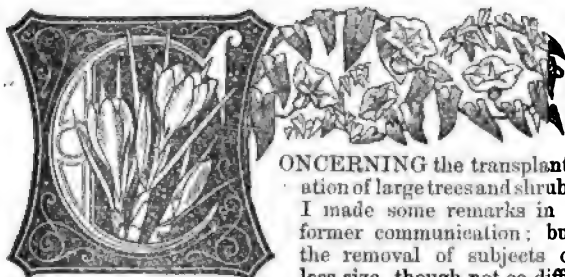
	s.	d.	s.	d.		s.	d.	s.	d.	
Large Fowls.....	8	0	to	8	Pheasants	2	0	to	2	6
Smaller do.	2	6	to	3	Partridges	1	4	to	1	6
Chickens	1	6	to	2	Grouse	1	2	to	3	0
Geese	6	0	to	7	Hares	2	6	to	3	0
Ducks	2	0	to	3	Rabbits	1	4	to	1	5
Pigeons	0	9	to	10	Wild do.	0	8	to	0	9

WEEKLY CALENDAR.

Day of Month	Day of Week	NOV. 27—DEC. 3, 1886.	Average Temperature near London.			Rain in last 30 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.								
27	Tu	<i>Erica caffra.</i>	47.1	34.3	40.7	18	40 af 7	56 af 8	7 af 10	44 af 11	20	12 12	881
28	W	<i>Andersonia sprengeloides.</i>	48.4	35.0	41.7	19	41 7	55 8	15 11	after.	31	11 52	882
29	Th	<i>Cytisus.</i>	47.9	34.1	41.0	19	48 7	54 8	morn.	43 0	(	11 51	883
30	F	<i>St. Andrew.</i>	48.0	34.4	41.2	21	44 7	53 8	25 0	9 1	23	11 10	884
1	S	<i>PRINCESS OF WALES BORN, 1844.</i>	48.4	35.1	41.8	17	45 7	53 8	31 1	34 1	34	10 47	885
2	SUN	<i>ADVENT SUNDAY.</i>	47.7	33.9	40.8	17	47 7	52 8	36 2	58 1	25	10 24	886
3	M	<i>Acacia armata.</i>	47.0	35.4	41.3	21	49 7	51 8	38 3	22 2	26	10 1	887

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 47.8°; and its night temperature 34.6°. The greatest heat was 62°, on the 1st, 1857; and the lowest cold 14°, on the 30th, 1856. The greatest fall of rain was 1.31 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

TRANSPLANTING SHRUBS AND TREES OF SMALL SIZE.



CONCERNING the transplantation of large trees and shrubs I made some remarks in a former communication; but the removal of subjects of less size, though not so difficult,

being of far more frequent occurrence, a few notes on the modes of proceeding may be useful, more especially as the present is a suitable season for transplanting. Although there is not anything novel in the methods to which I shall direct attention, one or two have been practised with tolerable success, and my describing them may be of service to some of the readers of this Journal.

Before I proceed further I will remark that success depends not so much upon the mode of transplanting as upon the season at which the operation is performed, and though a few plants may have a particular season at which when transplanted they thrive better than at others, most evergreens do best when removed early in autumn, September not being too early, except when, as last year, it is extremely hot, and even then, where there is moisture, I believe that month to be better than later. October, however, is a very good time for most plants, for the warmth of summer has not yet left the ground, and the roots commence at once to take possession of the soil. Deciduous trees may also be planted at the same time if they have ripened their summer growth; it is not necessary to wait for all the leaves to fall, but planting may be proceeded with at once if other circumstances are favourable; for, independently of forwarding work in autumn, trees planted then do much better than later. There are, indeed, many instances in which the proper time for transplanting cannot be taken advantage of, owing to a variety of causes connected with new works; but it is only necessary to remark that in such cases greater care is requisite to insure success.

Although many plants require particular treatment, still most of those subjected to transplantation may be roughly thrown into two classes—deciduous and evergreen, each of which requires a widely different mode of treatment. The latter have often a mass of closely-matted roots extending no very great distance from the collar of the plant, so as to completely fill the soil with small fibres running in all directions, and binding the whole together in one ball; whilst most deciduous trees and shrubs have more naked roots, the tips of which extend farther, but produce fewer lateral roots, so that in taking them up to transplant it is almost impossible to secure any considerable amount of earth adhering to them. It is, therefore, better not to attempt to remove such plants with what is called a ball,

but to endeavour to secure all the roots with as little injury as possible, and, while taking proper care in planting, to trust their success to Nature. Besides these two classes there is an intermediate one, in which the plants have a considerable proportion of roots in close proximity to one another, but nearly all lying at the same depth and parallel with each other, not above each other, as in the case of many evergreen shrubs. This may be termed the horizontal-rooted class; it includes many of the Coniferae, and considerable care is required with some to insure success when they are transplanted.

Taking it for granted that the above classes have all to be operated upon, the mode of lifting the plant from its position is certainly not less important than planting it carefully afterwards; on the contrary, it may be even more so, for no after-management can compensate for damaged or destroyed roots, and the after-wellbeing of the plant is then almost entirely dependant on its accommodating character and the natural advantages which it may obtain. In proportion, therefore, to the care exercised in taking up trees and shrubs, however small, so will their after-progress be, other circumstances being the same. Such young trees as have been more than one year in a place, and perhaps formed a few long rambling roots instead of a nest of nice fibres, ought, nevertheless, to have them taken up carefully, and, if necessary, cut in afterwards with a knife, so as to encourage a greater number of rootlets. All plants which it is advisable to remove with a ball should be lifted as carefully as possible, to prevent anything like a twist at the neck, or the breaking away of a part of the ball. In attempting to remove Pinuses with a ball, the latter is very likely to fall to pieces in this way if due care is not exercised in the removal, and most other plants are liable to the same mishap; but with small plants such accidents ought not to be of frequent occurrence. Whatever may be said as to the necessity of careful transplanting, it cannot be done without inflicting a certain amount of injury on the plant operated upon, and a check for the time being must be the result; but this may be obviated to a considerable extent by proper care at the time of taking up and replanting.

In planting shrubs and trees some recommend deluging them with water on placing them in the ground; this may be necessary in April, May, or September, if dry warm weather prevail, but rarely at other times. In general it is better to throw fine, moderately dry, pulverised soil, such as that which has been exposed at the surface for some time, over the roots or around the ball, and to place the coarser material at top, taking care when plants have no balls to dig a hole large enough, and by no means too deep, for the roots. These should be spread out at full length in all directions around the collar, and this is more especially necessary when young plants are intended to attain the size of timber trees, and in all probability have their roots on one side. When this is the case, disengage some of the roots before putting the plant in the hole, spread them out on the bottom at the full length to which they will reach, and let an assistant put a little earth over each root so placed. Continue in this way till all the

roots are fixed, layer by layer whorl-fashion, and are all surrounded by a substance favouring their growth—a good result may then be looked for; but if the roots are thrust into a hole without being spread out, and when entangled in a cluster rough clods as large as cricket-balls are thrown against them, the young trees can hardly be expected to succeed, much less flourish. Of course, in planting, the proper position of the plant should be regarded, and if the ground be dry, or only moderately wet, tread it in a little; but if very wet it is better not to do so, unless the season of planting is the early part of winter and high winds are likely to disturb the plant, in which case a gentle treading will be advisable; for frosts will most likely restore the soil to that healthy friable condition which treading when wet has a tendency to destroy.

The transplanting of small shrubs or trees that may be taken up easily with a ball is readily effected, as it is only a matter of labour. Those plants which remove in this condition are the most certain of all to succeed. For instance, *Rhododendrons*, unless transplanted in the midst of the growing season, seldom fail; in fact, the changes to which they are subjected, unless radically wrong, seldom prevent their thriving where most other plants would fail. Nevertheless, the *Rhododendron* has its favourite soil, and I saw a good example not long ago of the vitality of this plant, and its endurance under circumstances of great disadvantage. Some plants with balls not larger than might fill a half-gallon measure, or a little more, were planted in stations prepared for them: holes much larger than they required were made, and filled with a prepared mixture expected to suit them, about half a barrowful or more was afforded to each plant, but in this material they would not strike root, and a starved unhealthy look was the consequence. In some cases, however, the ball had come in contact with the natural soil, and the plants sent their roots into it in quest of food, but the greater portion, having their roots confined to the offending material, would not grow more than an inch or two, and yet very few of them died, for their own ball supported them for upwards of three years.

Of the plants which endure transplanting best, it will generally be found that the individual specimens which have only recently been removed are the best fitted for a repetition of the operation. Seedling Yews or Hollies taken up from a forest when 3 feet high, or more, are not likely to endure the ordeal when they are removed at once to an exposed place, while I have planted both with perfect success when they had been under cultivation, and been subjected to transplanting before. It is often thought that Portugal Laurels, Hollies, and the Evergreen Oak are difficult to remove, and the latter especially so, but I cannot say that I have had much experience with it; but I am told that late in spring, as late as May, is the best time. The other two do not succeed ill if transplanted in the autumn, other conditions than the season seeming to exercise an influence on them; but care should be taken if they are planted in midwinter, or when the soil is wet, that it be made firm when it becomes dry again, as the action of the air on the roots must be very prejudicial to them. All plants which remove badly ought to be transplanted when in a small state. The hardness of the plant affords no assurance of its transplanting well, for I know of nothing in which success is more precarious than in planting Furze and Broom, both natives of our wastes. The wild Juniper is also difficult to remove with success, and, in fact, most trees self-sown, and standing a number of years in the same place, seldom transplant well; of course, some do better than others. Those, as above stated, which lift with good balls are the best, but even in this case much depends on the care bestowed on them.—J. ROSSON.

GARDENERS GIVING AND EXCHANGING PLANTS.

Is it a generally acknowledged and understood thing that gardeners have leave to give away their employers' plants, without first obtaining their permission to do so? and is a gentleman justified in receiving a plant from a gardener without the knowledge of the owner? Sometimes plants may be given away without a reasonable probability of ever receiving anything in exchange. To ask the question of "leave" of some gardeners might offend them. How ought one to do?—*MEUM ET TUUM*.

[The custom of exchanging cuttings, &c., to a certain extent prevails with our very best gardeners, and in general it serves two purposes—it keeps up a friendly feeling among gardeners, and it also to a certain extent contributes to the interests of

the employer or proprietor, as most gardeners of standing, though they might sometimes send to friends or neighbours a basket of plants which they wanted, and without receiving at that time anything in return, would expect if they did want anything that they would be treated in the same way. After a somewhat long experience, we have met with no such gardeners as these alluded to, who did not in all such matters study their employers' interests as much as if the plants were actually their own—nay, more so. Although, however, the practice has long existed, it is not "a generally understood thing," so as to approach to being a law, rule, or regulation. No gardener, if he act prudently, would give away a cutting or a plant to any one without having a general understanding with his employer to that effect; and every employer, without anything like implied harshness or narrow-mindedness, may decide that no cutting or plant shall ever leave his premises without his direct orders or sanction obtained for each separate act of such neighbourly generosity. In such a case, however, the gardener, if he have any true pride about him, will never have a plant in the place that his employer has not bought or directly or indirectly paid for; and, after all, that is often the cheapest way to have plants. The best rule for employers and gardeners is, not to leave any such matter in doubt, but to have a clear understanding on the subject; and as our correspondent is not only anxious to know if any rule exists on this matter, but is also anxious to give no offence by the question, we recommend him to point out this answer to his gardener, and then tell him how in such matters he would wish him to act.]

THE GARSTON VINEYARD.

MR. MEREDITH'S extraordinary success as a Grape-grower has made his name well known in every part of the globe where the horticultural publications of this country are circulated, and many continental horticulturists have had opportunities of seeing and admiring his fine examples of well-cultivated Grapes in their own countries. To many who have not had an opportunity of seeing the Garston Vineyard, and who have so often read descriptions of the Grapes exhibited by Mr. Meredith at the London, Edinburgh, continental, and other horticultural exhibitions, a description of what I saw during a recent visit will be of some interest. Mine, however, will be but a feeble attempt, for it would require an able writer to convey an adequate idea of what is to be seen at this most interesting establishment.

The Vineyard is pleasantly situated on the main road from Liverpool to Speke and Hale. From the front of the dwelling-house, on the north side of the ground, a fine view is obtained of the River Mersey, which is distant about one mile. A railway passes through a portion of the grounds, by which passengers may be conveyed from stations on the London and North-Western Railway, *via* Warrington, to Garston, and from the Liverpool Docks; there are also omnibuses frequently running from the Exchange at Liverpool to Garston, and it is a very cheap and pleasant ride on a fine day. From the roof of the omnibus frequent glimpses of the Mersey may be gained, and these, with the constant succession of well-kept gardens which are seen on passing along the road, make the forty-minutes ride from Liverpool to Garston very interesting.

Before giving a general account of the establishment, I must first describe, as well as I can, the immense structure for the growth of young Vines, to which I referred at page 289. This house, from its magnificent appearance and extraordinary dimensions, first attracted my attention. It was only begun last March, and by the end of July upwards of three thousand pot Vines were placed in it. The following are its dimensions:—Length, 202 feet; breadth, 41 feet 6 inches; height from the centre walk to the ridge of the roof, about 20 feet. The roof is a span, and along its whole length there is a lantern about 3 feet wide and 2 feet 6 inches in height above the roof, and the sides of the lantern are made to open by means of a spindle and chain from the centre path inside. The ventilators on the south side of the lantern are opened by pulling the lever on the north side of the walk, that on north side from south, and the machinery for opening the ventilators is so nicely fitted that a child might open them with ease. There is another range of ventilators along the walls on each side of the building; these are placed 2 feet apart, and are 18 inches by 9 inches; they are also opened by machinery. There is an iron rod 1 inch in diameter, which is fixed to the wall, parallel with the top edge of the ventilator, and there is an

eye fastened at each end through which the rod passes. There is also a short rod fastened to each ventilator, about midway; this is made fast to the main opening rod by means of a set-screw, and a lever at every 40 feet along the front inside opens a large number of ventilators at once. This is a very neat and effective contrivance, by which abundance of air is admitted to the house, but before coming in contact with any plants it has to pass between four rows of four-inch pipes. Altogether I consider that the house is provided with one of the most perfect arrangements for thorough ventilation which I have ever seen.

The ends of the house are due east and west, and its area is divided lengthwise by three walks, the central one is 6 feet wide, and those at the sides are of the same width. There is a wooden bench 2 feet wide over the pipes, next to the outside wall, all the way round, and there are two pits 12 feet 6 inches wide, one on each side of the central walk. The house is in two divisions only. In the western division there are twenty-two rows of four-inch pipes, twelve for surface heat, and five in each of the pits for bottom heat. The former are arranged as follows—four by the wall on each side of the house, and two on each side of the central walk. Many of these are trough-pipes for evaporation.

The roof is constructed on the rafter system, and is very elegant, although strongly bound together by means of tie rods, and in various ways. The rafters are made of the very best red pine, they are $3\frac{1}{2}$ by $2\frac{1}{2}$ inches, and are 1 foot apart. Every fourth rafter is stronger, being 5 inches by 3 inches. There is a truss rod fixed to each of the strong rafters, and such rods are very neatly managed, iron sockets being let into the rafters, and into them the iron bolts which keep the truss rods in their places fit; these are moveable, and when any deflection in the roof takes place during high winds, they will in a great measure prevent the roof from suffering injury from vibration. Round iron bolts, 1 inch in diameter, at intervals of 7 feet, are passed through all the rafters; and between these and parallel with them are cast iron angle or T rods, which are screwed to each rafter. To each of the strong rafters there is an iron pillar about 3 inches in diameter, the pillars being placed alternately at about 10 feet apart; one pillar supports every alternate strong rafter along the central walk, and the rafters that are missed along the central walk are caught by a second row of pillars fixed by the side walk. The same arrangement is carried out on each side of the house. On the top of each pillar there is a sort of iron shoe, into which the rafter fits; these shoes are about 9 inches long, and have a very neat though strong appearance; from the pillars there are other tie rods placed transversely, so that the building is very securely braced together, and although there is a large amount of iron used in the construction of the roof, in consequence of its being so nicely fitted and so judiciously placed, the whole presents a very elegant appearance.

The sides and ends of the house are all permanently fixed with bars of the same dimensions as those with which the roof is built. There is about 3 feet of glass at the sides, in two squares. The whole of the house is glazed with the very best 21-oz. sheet glass, from Chance, of Birmingham.

There are three large tanks in the house, one in the centre, and one at each end. They are 38 feet long, 7 feet wide, and 7 feet deep. To each of these there is to be a pump, and a cistern, into which the water will be pumped some hours previous to use. Mr. Meredith is very particular in having the water as nearly as possible of the same temperature as that of the general atmosphere in the house, before watering his Vines with it. The cisterns are all arched over below the level of the floors. The whole of the rain that falls on the roof is conveyed by means of iron pipes into the tanks, and when we take into consideration the immense quantity of water which three thousand Vines in 11-inch pots will require during their growing season, we can scarcely think the tanks large enough.

Mr. Meredith built a house of such extraordinary dimensions because he felt that he should not be doing his permanent Grape-bearing Vines justice by growing young pot Vines beneath them. He told me, also, that it was not possible to grow and ripen pot Vines in houses set apart for the growth of Grapes, and as his trade in pot Vines is very extensive, he is naturally anxious to supply his customers with the very best which he can command. He was also anxious to put up a building that would be a credit to his place, and serve as an example of his skill as a horticultural builder. That he has succeeded in doing this will be evident to every one who may have an opportunity of seeing his large house; and if I had any doubts on the

matter after I had inspected the building, they would have been removed by an opinion expressed by an eminent Liverpool architect, who said it was the strongest and most elegant structure he had ever seen. The heating is also most thoroughly and neatly done. I was amused by Mr. Meredith telling me how he was drawn on from path to path when he was first pegging the ground out for the building. There is a well-kept kitchen garden on the south side of the house. This is divided into quarters by walks from north to south. He told me his first idea was to go as far as the second walk; this would have made the building only about 120 feet long. After lingering at this point some little time, consulting his pocket and thinking it would be a pity if he did not go a little farther, he then stretched his line across to the next path. Here the final determination was taken to cover the whole of the ground he had staked out.

On entering the building from the west end, the impression it conveys to the mind is that we have suddenly stepped into a Kentish Hop garden covered with glass, for the endless rows of pot Vines, row after row, remind one of the Hop vines. Here large numbers of Vines of all the most approved sorts are to be seen in splendid condition. The canes are, on an average, 12 feet high, and each Vine is neatly tied to a stick. The canes are all most beautifully ripened, are arranged in rows 2 feet apart, and are trained straight up towards the roof. Every leaf has room to grow to its proper dimensions, and every bud is consequently well matured. The fine current of air, which is admitted to the house by means of the side ventilators, after passing between the hot-water pipes, comes in contact with the Vines; it then passes out of the house through the ventilators in the lantern on the roof. By this means there is a constant current of air passing through the Vines night and day; and if they do not give the greatest satisfaction to all who may be fortunate enough to have them, it will very much astonish me. I intend having upwards of a hundred of them for fruiting against the back wall of the vineries I am now altering, and have no doubt I shall be able to give a favourable report of them next year. There is also a row of magnificent Vines placed on the side bench over the pipes. These are trained to the rafters from the front over the side walks, and are continued all the way round the house and across the end. I noticed some extra-strong Vines, upwards of 16 feet long, very stout, and capable of bearing from ten to fifteen fine bunches.

In the western division of the house, where there are twenty-two rows of pipes, the Vines are forced into rapid growth. They are first propagated in small span-roofed pits, and are then kept in this part of the house until they have matured their growth; afterwards they are taken into the east or cool end, where they are subjected to the ripening process. Here they have all the air that can possibly be given them; their supply of moisture at the root and amongst the foliage is also limited; and as soon as their leaves turn yellow and begin to drop off they are taken outside, the pots laid down on their sides, and the Vines neatly nailed to the walls of the different houses on the place. Mr. Meredith thinks it a very great mistake to place Vines in a growing state in the open air for the purpose of ripening them. This is often done where there is a scarcity of room and convenience for the growth of pot Vines. Hence it is that we often hear of such Vines not answering the expectations of purchasers.

I noticed upwards of one thousand canes of the true Alicante. This I consider the finest late Black Grape in cultivation, and I shall more fully describe it in a future communication when I come to the different houses in which I saw it growing. Mr. Meredith is a great advocate for growing Vines in large pots, and he is no doubt quite right; for if they are grown in small pots the roots soon become matted together, and if the pots are placed on soil or anything into which they can push roots, these very soon come through the bottom, and when this is the case a large number of the most important roots for sustaining the Vines are sacrificed when the pots are removed. By placing the Vines in the proper-sized pot there is room enough for the plant to mature its roots, which can all be retained in the pot. There need be little fear of the Vines fruiting well in the following season if they are properly treated. They should not in any case be turned out of their pots, but should be fruited in the same pot, and be well fed with stimulants in the shape of liquid manure. Their food should, however, be frequently changed: this is a very important point that should not be lost sight of by any one who may contemplate growing pot Vines successfully. I may be excused for

deviating a little from my subject. My object in doing so is to make my description of the Garston Vineyard as interesting and instructive as possible to the numerous readers of THE JOURNAL OF HORTICULTURE.

I should like to see the western division of Mr. Meredith's noble house filled with good Pines. Although they would be from 12 to 15 feet from the glass I feel confident they would grow very luxuriantly; and as they could be constantly supplied with heat, light, air, and moisture in well-regulated amounts there would not be the least fear of their being drawn up weakly. What a magnificent house this would be for growing fine specimens of Camellias, Azaleas, and stove plants. Some idea may be formed of the magnitude of the house when I state that it would conveniently hold all the glass houses to be found in a moderate-sized nursery. The whole of the roof is glazed with squares of glass of about 18 inches by 12. The house is well proportioned, and looks well from any point of view.—J. WILLS.

(To be continued.)

ROSES.

A few days since, on gathering a fine bouquet of Jules Margottin Roses, most beautiful and fragrant as a Cabbage Rose in June, and shortly afterwards some blooms of Charles Lefebvre, I could not help asking myself the question, Can Roses be more beautiful than these? I then turned to my lists of new Roses, now so nauseating to look over, because there is but little hope of selecting one to equal the above two glorious kinds. In one of these lists just received from Paris I find twenty-eight new Roses with different shades of rose colour; and the idea struck me, Is it because the English are satiated with crimson Roses that the French growers offer a majority of that colour? this being, I almost think, the first season I have known it to be the case. The majority, it is true, is not large, for there are twenty-three varieties of different shades of crimson—fifty-one new Hybrid Perpetual Roses! One of our most distinguished amateurs, in mentioning the other day this influx of new Roses, said, "While English buyers are flats and the French growers sharps, we shall always have plenty of new Roses." I almost fear there is some truth in this, for the annual creation of new names for seedling Roses with really no good distinctive characters is sharp, clever practice. The question is, Is it fair and honest? I think not.

The French growers owe much to their language, so fertile is it in descriptive phrases. The clever grower mentioned by your correspondent "D., Deal," in page 345, wields these phrases with wonderful facility. He is about to send out ten new Roses raised by himself; let us read the termination of a magnificent description given to each. No. 1 is a "*variété extra*;" 2, "*très belle variété*;" 3, "*superbe variété*;" 4, "*très bonne variété*;" 5, "*variété remarquable*;" 6, "*très bonne variété*;" 7, "*variété hors ligne*;" 8, "*variété très remarquable*;" 9, "*variété extra de tout premier ordre, et d'un effet incomparable*." Modest, this! 10, "*très belle variété*."

No. 1 has six lines of description awarded to it, well loaded with praise. In English it has green shoots, brown thorns, green leaves—all most rare qualities—and flowers large, of a bright velvety crimson shaded with purple: this colour may be seen in a dozen of our well-established favourites. No. 2 has also green shoots, brown thorns, green leaves, and very large flowers; its colour carmine shaded with bluish. There is nothing rare in this, but then its name is new. Who Jules Calot is we know not here. The above I give as a sample of the descriptions appended to these new Roses, ten in number, the cost of which is £9. With regard to Napoleon III., its description is almost ridiculous. It is probably a good Rose, but I would rather hear half a dozen words from that quiet good judge of Roses, Mr. Hedge, of Colchester, as to its qualities, than the threescore and ten used by M. Eugène Verdier in his description. He seems to thoroughly understand the axiom, "The true success in advertising is self-glorification." In the catalogue of M. Charles Verdier, the younger brother of M. Eugène, a modest English-like man, whose word may be taken without the smallest grain of salt, this quasi-famous Rose is well described in five short lines. With regard to the boasted quality of this and many new crimson Roses of being composed of two colours—scarlet and violet or purple, this is very common with many kinds during the summer, depending upon changes in the weather. I have even seen Le Rhone shaded with purple, a beautiful set off to its brilliant scarlet;

and Charles Lefebvre last season was often so beautifully shaded with violet and dark crimson as scarcely to be recognised.

I sometimes wonder how many Hybrid Perpetual Roses we have had offered to us by the French growers since the advent of the first—nearly a thousand. The first of this race must be now nearly forgotten. I can never forget its name—"Le Désespoir des Amateurs." Why the despair? I take it that all amateurs on seeing this variety must despair of raising such a Rose. So at least thought the popular Rose-grower of that day. After much trouble and at a heavy cost I procured a plant of this great rarity, the first of its race. As far as I can recollect, it seemed to be a hybrid of the old Burnet-leaved Rose (*Rosa sanguisorbifolia*), and the first season it showed its tendency to produce flowers in autumn; but to the utter despair of all amateurs neither they nor the flower-buds produced in summer would open, and so its culture was soon discontinued, our despair widely different from that intended by its name.

With respect to the new Roses now so abundantly produced by the Paris growers, how is it that an enterprising grower who had last summer ten new Roses to be sent out this autumn, did not, on some Friday evening last June, gather flowers of, say, five of them, pack them in a box, and start by the night mail? He might have made his appearance with them in good order on Saturday at the weekly show at South Kensington. If the Roses thus brought direct from the fountain head had been really distinct and good he would have been amply rewarded by the full confidence of English Rose amateurs; and if only two or three arrived in good condition they would have had a better effect than all the *très bonnes, très belles, and incomparables* of his catalogue. It is most difficult to see a new Rose in a good state in France. It is either too dry or too wet, too late or too early. You inquire, and most probably you have the well-known shrug and exclamation, "*Ah! Monsieur, vous est trop tard*." I hope, therefore, now good Roses are so abundant, and new distinct ones so rare, that my suggestion will be acted upon, and that before we are required to pay twenty-five francs for a Rose with a new name we shall be able to see if it is worth the money.—A LOVER OF A GOOD ROSE.

CULTURE OF VARIEGATED ZONALE PELARGONIUMS.

My experience obliges me to differ from Mr. Pearson as to mixing the soil so long before using it. I think such mixing and frequent turnings shake the soil out of, and destroy the fibre of turfy loam too much. I prefer taking it from a stack, out 8 inches thick from an old pasture two years previously, chopping it up, but not very fine, except for small plants, and mixing with it a little partially decayed leaf soil, and a little dry flaky cowdung broken into small pieces. I do not care to have much manure in the soil, as I prefer feeding the plants with pretty strong liquid manure.

I have at present a great many plants of Sunset, Mrs. Pollock, Lucy Grieve, Sophia Dumaresque, Mrs. Benyon, Lavinia, Italia Unita, and others. They are all in the most robust health, on a shelf near the glass. They are certainly not kept warm, for the top lights are run down below them in the morning soon after daylight when fine, and remain there until near dark at night, and, when not frosty, front air is left on all night.

I prefer rooting all my cuttings of these kinds in the summer in the open air with the ordinary scarlets. If too late in the season for that, I would leave them on the old plants until the spring.

I think the strong clayey loam of which "H. M. K." speaks must have been pretty rich. I had in a bed last year 150 plants of Mrs. Pollock, which grew luxuriantly, with most beautiful colouring in the foliage, but the bed was made very much richer than for Tom Thumbs, and I think justly so, because richness for the ordinary scarlets would produce a great amount of over-luxuriant foliage where bloom is wanted; but with Pelargoniums of the Mrs. Pollock class, large and high-coloured foliage is the effect wanted.—W. HOCKNEY, *Wassand*.

CRATÆGUS PYRACANTHA.—I consider this one of the most ornamental of shrubs for covering the wall of a cottage. Growing at the end of my cottage there is one which was a few weeks

ago most beautiful, and would, I have no doubt, have remained in the same condition until Christmas had it not been for the voracity of the greenfinches, which are remarkably fond of the berries. As soon as these were ripe the depredators commenced operations, and did not cease until they had left every berry minus the seeds, thus destroying the beautiful appearance of the plant. I find that they are also remarkably fond of the fruit of *Cotoneaster microphylla*, which here soon shares the same fate.—JOHN EDLINGTON, *Wrotham Park, Barnet.*

ORCHARD PLUMS AND ORCHARD APPLES.

I beg to thank Messrs. Bunyard for their supplementary list of orchard Plums, as well as for correcting my imperfect nomenclature of one of the kinds mentioned. Might I further ask them, or some other well versed in orchard matters, to give us a list of the most popular Apples grown for market? Such a list, I am well aware, will be much longer than that of Plums, since in each district there are varieties which have either been proved by experience to be the best for that locality, or are grown merely because a want of knowledge and enterprise has prevented others being tried. However, there is a multitude of names; and it would confer a benefit on the community if some one would endeavour to classify them, and state what peculiar soils or situations suit particular kinds. From their extensive dealings I should think that Messrs. Bunyard would be able to do this, and I for one look with great interest on such information.—J. ROBSON.

VIOLA CORNUTA.

I FEAR from the manner in which Mr. Bennett (page 368) has referred to my remarks about this plant that he has misapprehended the object I had in view. Perhaps I was not explicit enough. It was not in the least to question Mr. Bennett's botanical accuracy, nor the truth of what he stated when he said "that he never met with more than one variety of the true *Viola cornuta*." My object was, and is so still, in thus returning to the subject, not controversy, but to try and assist in clearing away the confusion that exists about this very useful plant. One thing is perfectly certain—that the trade have supplied either another species of *Viola*, or a very inferior variety of *Viola cornuta*, for that which is acknowledged as a most excellent bedding plant. I am not by any means solitary in this experience; and this is of more importance to intending purchasers than any other minor point of difference between a few individuals.

The question arises, Does *Viola cornuta* (the Horned Violet) vary when raised from seed, or is there another species of *Viola* closely resembling *cornuta* differing from it only in habit and profusion of bloom? Mr. Bennett says that *Viola cornuta* has been in this country for nearly a century, and that it is propagated from cuttings. I presume he has not had experience in seedlings, or he would have, perhaps, supplied the information which I wished to call forth about its coming perfectly true from seed—a point of no small importance now that the trade are offering for sale seeds of a plant for which there is, and will be, a great demand.

The two *Violas* which I have here are alike in stem, leaf, colour, and shape of flower; both are horned *Violas*. They differ in the one being more procumbent in growth and shy in blooming, while the fine one is a comparatively upright-growing plant, and flowers most profusely. They were planted alternately in the same line, so that the difference is not the result of soil or climate. Can none of your readers tell whether there are two species of *Viola* which so closely resemble each other, or whether *V. cornuta* does or does not vary when raised from seed? Many, I am sure, will be glad if any one can decide this. The term *cornuta* is quite as applicable to both as to one of the sorts I have grown, if it has been suggested by the shape of the flower, which I presume is the case.—D. THOMSON, *Archerfield.*

[We shall be obliged, and so will all gardeners, by information in reply to the inquiry made by Mr. Thomson. There is a portrait of the botanist's *Viola cornuta* in the ninth volume of the "Botanical Magazine," t. 791. It is there represented with an elongated, ascending stem; leaves oblong-ovate, nearly heart-shaped in fact, with crenate edges; nectary, or horn, awl-shaped and longer than the corolla; flowers bluish-purple, with streaks of dark purple. Curtis says, that when he wrote (1804), it had

become very common in gardens, being easily propagated by its creeping roots. He adds that, "besides the length of the spur, which equals the petals, there is another character that might have given rise to the name of *cornuta*, or horned, but as it does not appear to have been noticed, it is most probable that this name was applied on account of the length of the spur or nectarium only. We allude to the remarkable length of the segments of the calyx, which appear between the petals somewhat like a pair of cow's horns, particularly the two lowermost segments, which are bent a little upwards—that is, with respect to the observer, for with respect to the flower they point downwards, this being resupinate or inverted."

Tournefort first mentioned it, and called it *Viola pyrenaica*, it being a native of the Pyrenees, but it was also found on Mount Atlas in Algiers. It was introduced to the Kew Gardens in 1776 by Dr. Ortega.]

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 20TH.

FLORAL COMMITTEE.—The subjects for examination were very few, as might be expected from the lateness of the season. A second-class certificate was awarded to *Ruscus aculeatus* with yellow berries, which was exhibited on a previous occasion by Mr. Shortt, gardener to Viscount Eversley, at Heckfield; Mr. Shortt having informed the Committee that several plants had been found in the same locality. The plant is of much interest as a new form of *Ruscus*, also as a new variety of a British plant. Mr. Laurence, gardener to the Bishop of Winchester, Farnham Castle, brought a beautiful specimen of *Coccothymus reflexus*, producing very pretty bluish purple berries. This is a trailing stove plant, and much admired for the peculiar colour of its berries. Mr. W. Earley, gardener to Felix Pryor, Esq., Digswell, brought out specimens of seedling *Begonias*; one of them, *B. pendula*, seemed a desirable variety, but there was too much similarity. They are useful plants at this time of the year. From the same exhibitor came also two *Ipomoeas*—one, probably a form of *I. quamoclit*, with small crimson flowers, the other of a light azure blue, both well-known plants. Messrs. Backhouse, York, sent *Mesinsopidium* [?] *sanguineum*, a small rose-coloured Orchid from Ecuador; and from Mr. Salter, Hammersmith, came three seedling *Chrysanthemums*, each of which was awarded a first-class certificate. They were Countess of Warwick, a fine full white flower; Lady Talford, a beautifully formed flower with pale silvery rose incurved "petals," one of the most perfect varieties yet raised; and Faust, a broad-petalled bronzy chestnut-coloured flower of excellent form. Mr. Salter also exhibited a dark rose-coloured sport of *Pompon Cedo Nulli*; the plant had been badly cultivated—should it prove to be, as it doubtless will, as well-formed a flower as its original parent—the white, or the golden and brown varieties, it will be a great acquisition. J. Bateman, Esq., sent out specimens of *Odontoglossum Hallii*, but it seemed to be the opinion of the Committee that that flower was either *O. triumphans* or *O. gloriosum*. A. D. Berrington, Esq., sent a cut branched spike of *Burlingtonia decora picta*. Mr. Richards, gardener to Lord Londesborough, exhibited a small plant of a *Lycaste* of the flava section, much resembling the specimen sent by R. Warner, Esq., to the last meeting. From Major R. Trevor Clarke came a fine mass of *Hymenocallis littoralis* grown in a tank among Water Lilies.

FRUIT COMMITTEE.—To Mr. Ruffett, gardener to Viscountess Palmerston, Brockett Hall, a special certificate was awarded for eleven dishes of Apples, among which were very good examples of Cox's Orange Pippin, Fearn's Pippin, Court of Wick, Margil, Braddick's Nonpareil, and Sam Young. From the same exhibitor came also good Chaumontel Pears. Mr. Earley, gardener to F. Pryor, Esq., Digswell, sent four dishes of Apples; and Mr. Cox, Redleaf, Waltham Abbey Seedling and Golden Noble, two excellent kitchen Apples; likewise very good Winter Nelis and Chaumontel Pears. For very straight and well-grown Salsafy and Scorzoneria, Mr. Earley received a special certificate, and a similar award was made to him for Earley's Selected Prize Brussels Sprouts, a very productive stock with stems about 4 feet in length, and closely set with sprouts. Messrs. Veitch contributed a most useful exhibition—viz., ten sorts of Celery. These were Incomparable White, Veitch's Silver White, Paris Dwarf White, Seymour's White, Cole's Crystal White, Solid Red, Hood's Dwarf Red, New Red, Cole's Defiance Red, and Ivory's Nonsuch Pink. The first two and the last two were decided to be the best of their respective colours. Mr. Stewart, gardener to the Rev. W. Vernon Harcourt, Nuneham Park, sent three kinds of Onions, among which was that called the Nuneham Park.

FORTNIGHTLY MEETING.—G. F. Wilson, Esq., F.R.S., in the chair. After the election of three new members and the admission of the Enniakillen and the Undercliff Horticultural Societies into union, the Rev. Joshua Dix reported the awards of the Floral Committee, and made some remarks on the objects exhibited. Mr. Wilson performed a similar task as regards the subjects brought before the Fruit Committee. He likewise directed attention to a Strawberry-pan sent by

Mr. William Ingram, gardener to the Duke of Rutland, Belvoir Castle. Its object is to keep the roots of pot Strawberries moist without placing turf on the shelves of the house, or setting the pots in saucers of water, the latter proceeding being objectionable, as the roots are thereby often kept in water. The pan is made to contain a 32-sized or six-inch pot, is 4 inches high, and 7½ inches in diameter; a circular rim 1 inch in height surrounds the hole in the bottom of the pan, and on this rim the pot is set, the interval between the sides of the pot and pan being filled with soil or moist sand. In fact, the pan acts in the same way as regards moisture, as the jacket of a steam-engine cylinder does in respect to heat, and if such pans can be obtained at a moderate price they seem well worthy of trial.

WEEKLY SHOW, November 24th.—Mr. W. Bartlett, of Shaftesbury Road, Hammersmith, was awarded a second prize for a collection of well grown plants; and a third prize went to Mr. W. Young, gardener to R. Barclay, Esq., West Hill, Highgate, for a collection of plants. To Messrs. W. Cutbush & Son, Highgate, was awarded an extra prize for a collection of Heaths, also an extra prize for a collection of Chrysanthemums. Mr. J. Ruak, gardener to the Earl of Abergavenny, Eridge Castle, Tunbridge Wells, was awarded an extra prize for cut flowers of *Bougainvillea speciosa*. A collection of Selaginellas and Dracenas was sent from the Society's garden at Chiswick.

Mr. W. Young, gardener to R. Barclay, Esq., obtained a second prize for a collection of fruit; and Mr. R. Marcham, gardener to E. Oates, Esq., Bydorp House, Hanwell, had a third prize for a similar collection. An extra prize was awarded to Mr. Hill, Angel Row, Highgate, for eight sorts of Onions; and an extra prize to Mr. W. Young, gardener to R. Barclay, Esq.

LATE PEAS—SCARING RABBITS AND PARTRIDGES.

MR. RECORD asks if any one has tried *Ne Plus Ultra* as a late Pea. I have not, but on July 3rd I sowed two sorts of Peas—Bedman's Imperial and Prince of Wales—and they have prospered exceedingly well. I have gathered from them frequently for a month or five weeks. I gathered a dish on November 9th, and they were as good as could be expected at this time of year. I expect to have gatherings from the plants until Christmas if there be no unusually severe weather. I had them until late in November last season. I also sowed Daniel O'Rourke on the 17th of July; the sowing is now in full bloom. This is a very good variety for standing frost.

I observe that in your Number of November 18th complaint is made of the depredations of rabbits, pheasants, and partridges among the Cabbage tribe. I planted out a lot of young Cabbage plants lately, but the rabbits and partridges took very nearly all in a few nights; so I have done as I did in spring, when they were taking all the *Scorzonera* and *Salsafy*—I cut a lot of sticks or rods about 2 feet in length, and tied a piece of white paper to each, so that it would dangle about 5 or 6 inches long. The effect was magical. The plants have never been touched since. I always find that sticking in the rods with paper on them at short distances over the ground answers as well as netting.—THOMAS HAZLITT, Gardener, Old Hall, Welington, Salop.

MANURING AND MULCHING ROSES.

MR. RADCLIFFE recommends using blood manure or guano as a top or surface dressing for Roses now. I thought you always said guano should never be used for plants except when they are in a growing state. Am I correct, or will Roses be the better from a surface-dressing now of either nitrophosphate or Peruvian guano, and which do you recommend? I suppose 2 ozs. to each tree would not be too much. Being a city man such manures as the above are more convenient to me, if they would be as beneficial as a mulching, and for keeping frost from the roots I would use cocoa-nut refuse.—FRED.

[We abide by our opinion, that manure of any kind is most economically applied when the plant is just about to commence growth, or is in a growing state. Mulching is for quite another object; it is to exclude cold in winter, and drought in summer. Such is our practice, but we sent your note to Mr. Radcliffe, and this is his reply:—

"Nitrophosphate may be put on at any time. Guano (Peruvian) is a most powerful manure, and the cheapest of all. If put on in a solid form, I consider winter to be the best time. People put it on too thickly, and thus corrode, or "burn" the roots of their plants. One handful of Peruvian guano to a stable-bucket of water, well stirred, may be put on with good

effect in the spring, or at any time. By putting on the guano in an undiluted form now, it becomes diluted, and thoroughly incorporated with the soil. The rains will not wash it out of the reach of the roots. Cocoa-nut refuse, litter, or dry straw, are famous excluders of cold. It is astonishing how little straw will defy a temperature of zero. All my Roses (about 1200), are protected by horse litter, grass, fern, or leaves. If the roots of Roses are soddened with wet, and a temperature of 5° below zero occur, that cold will probably kill them.—W. F. RADCLIFFE."]

NOTES ON VARIOUS PLANTS.

MR. D. THOMSON is quite correct about the *Viola cornuta*. There is a very inferior variety not botanically distinct by any means, but not worthy of cultivation. My experience has proved beyond doubt that increasing the plant from cuttings is better than by sowing the seed. The seedlings are not so free-flowering and are grosser in their foliage, whereas the cuttings of nice fresh young shoots are a certainty, if propagated for the time when wanted. Divisions and old plants will certainly prove a comparative disappointment. We have discarded this plant years ago in favour of Pansies.

We have also discarded for the same reason the beautiful yellow *Viola*, far superior to *Viola cornuta* in the richness and clearness of its kind of colour. We always named this *V. uniflora*, but if our name is wrong perhaps Mr. Freeman, of Knowsley, from whom we had the plant, will be kind enough to correct us. The habit of this *Viola* is also much superior. There is, however, no yellow equal to the Pansy, nor do I know any purple for summer beds equal to or near the colour of a Perpetual Purple Pansy. The old Blue is not so good for purposes of this sort, as the sun blanches the colour, but we have a new race coming on with substance sufficient to meet this difficulty. It should at the same time be borne in mind that the plants must be propagated for the particular time of blooming. We have, indeed, found that by occasionally taking out the old shoots the young ones rise up in the ribbon rows and become a clear mass of colour in a few days, instead of the old shoots falling down and becoming weedy.

Tagetes signata pumila is a useful necessity, but will never replace our loss in the *Calcolaria*. It blooms late, and many ladies object to its bad odour. Its colour appears to be better in the French gardens than with us—perhaps from the sun bringing the plant sooner into bloom—a hint which I intend to put in practice next spring by giving the plants some forcing before turning out. I obtained the seeds of this at Messrs. Vilmorin's five or six years ago, who, if I remember correctly, informed me that it was a selection from the older variety, which is proved in the better one by a strong shoot occasionally starting up.

Your readers must be pretty well tired of *Iresine Herbatii*, and a little more practice with less selfishness would be more praiseworthy in some of your correspondents; but I fear the best management in some places will not induce this plant to show its colour clearly or make it lively. Our place is very wide, and while the plant was very passable at one spot, in another it gave the mixture a dead look; and such was the case in most places which I have seen.

I must say your planting correspondent (page 864), was too hard on "A. D.'s" instructive notice in the "Florist and Pomologist." I can bear "A. D." out that it is seldom safe to plant before the middle of the last week in May or first week in June. On the morning of May 25th, 1866, we had two beds of Lady Middleton Pelargonium so very much injured that they were of little use for the season. Covering would have been a difficulty, as each bed contained upwards of seven hundred plants. The difference between an inland place and one near the sea, like Chester, is that the atmosphere of the latter is not so much affected by the late daybreak frosts which we so often experience in May.—VINDICATOR.

WELLINGTONIA GIGANTEA.

In 1862 we transplanted about ninety plants, varying from 6 to 14 feet in height. These were all growing in heavy clay soil, and were consequently moved with fine large balls. 1863 being a dry, hot season, they did not make much progress. No. 1 was 14 feet high; in 1868 it was 15 feet, in 1864 18 feet, in 1865 21 feet 6 inches, and to-day, November 14th, 1886, it is 24 feet 6 inches high. The others have done equally well. Some of them have even grown 4 feet 2 inches in one year.

In 1864 we transplanted about 120 trees varying from 2 to 10 feet in height. These were all growing on rock, so hard that it made quite a job for the blacksmith. I am pleased to say they have all done remarkably well. In 1865 we only removed about a dozen, from 14 to 18 feet high, but with equally good results, except in one case, which I can easily account for, as the tree had been growing in light gravel, and had some large tap roots, so that in attempting to remove it all the ball was broken, but this is the only plant I have lost in all my experience.

We have had Wellingtonias in most kinds of soil, some growing in strong clay, others in light vegetable soil, some in peat, others in leaf mould; but in no soil with which I am acquainted does the Wellingtonia succeed so well as in a good loamy clay, with about one-third loam, and not too much moisture. Wellingtonias growing in soil of this description, with a favourable aspect, will more than realise any expectation that may be formed of them, and will transplant as well as, if not better than, *Aucuba japonica*, which every gardener knows to be easily managed as regards transplanting; but, doubtless, a good result is greatly dependant on the kind of soil in which they are growing.

I may state that we have about 700 Wellingtonias, all planted out, varying from 1 foot up to 24 feet 6 inches in height. I am pleased to say we have one with cones containing good seed. We have had hundreds of cones in former years, but no good seed.—P. DAVIE, *Gardener to the Marquis of Huntly, Orton Hall.*

CONIFERÆ AT LILLESDEN,

HAWKTHURST, KENT.

JUDGING from my own feelings when reading the excellent articles from Mr. Robson's pen on the species of Coniferæ at Linton Park, I conclude that any information relating to that tribe of plants will be read with interest and benefit: therefore, I offer a few remarks on the Conifers growing at this place. The collection is limited to about thirty species, and as some have only been recently planted, I shall confine my remarks to established plants, showing the effects arising from the different soils and situations in which they are placed, which in many instances are far from satisfactory. Our place being new, I have no fine specimens to boast of, but many promise to become very handsome.

ABIES DOUGLASSII.—Of this we have several trees, the highest 16 feet. Some, planted in a soft loamy soil resting on sandstone, thrive and keep their colour well; while others, planted in a poor, undrained soil resting on a layer of clay and another of gravel, make very slow and uneven growth, lose their colour and much of their foliage in winter, and in exposed places become much disfigured by the wind.

ARAUCARIA IMBRICATA, the highest 14 feet. This does not do well in our wet soil, but where planted in deep loamy ground, or on mounds of the same material mixed with sandstone, it is giving great satisfaction.

CEDRUS DEODARA.—There are about seventy distributed over the pleasure grounds in different soils, in which they all appear to thrive; but those in wet soil make a more slender growth, causing them to suffer from strong winds. Three of them, planted in a soil of a dark loamy character mixed with a good portion of ironstone, are yearly becoming more erect in habit, shorter in growth, and darker in foliage, nearly like a distinct variety.

CUPRESSUS LAWSONIANA is doing well in both heavy and light loamy soil, and promises to become one of the greatest ornaments to the pleasure ground. Its seedling so freely is a check to its growth, but the cones are considered a great ornament by my employer. It stands the wind well.

PICEA CEPHALONICA and *PINUS* are growing in a heavy rich soil on a gravelly bottom, and are very pretty plants of about 16 feet in height. They are quite exposed.

PICEA WEBERIANA is doing badly in a rather yellow sandy soil of some depth. It is stunted and unhealthy, while younger plants in a more favourable soil are making rapid growth.

PINUS AUSTRIACA does not bear the wind well, neither does it make much progress in the wet soil in which it is placed.

PINUS INSIGNIS.—Here we have plants standing in a wet and heavy undrained soil, the foliage nearly battered to pieces every winter by the wind, in consequence of the growth being made so late in the season; while others of the same species, planted in a loamy soil with a sandstone bottom, and as much exposed as the former, thrive amazingly, and are not in the least de-

gree affected by the wind. They are handsome specimens, the highest about 35 feet.

PINUS EXCELSA is planted also in a wet soil, in which it makes a too slender growth, and late in the season. This is also injured by the wind.

TAXODIUM SEMPERVIRENS.—Here we have four plants on an island, in one of the wettest and poorest soils we have. They thrive admirably, having made a growth of 2 feet 6 inches this season, and they are 28 feet high. They appear to stand the wind well.

THUJOPSIS BOREALIS.—This is planted in a loamy soil in a sheltered situation, which evidently suits it, from the free growth and good colour which the plant exhibits.

WELLINGTONIA GIGANTEA.—Too much cannot be said in praise of this stately Conifer. We possess many plants in various soils, and those in the wettest portion make a more slender growth than others more favoured; but with that exception they are all that one can wish. The highest plant is 17 feet high; and the next, 14 feet in height, perfect in shape, and much admired; it made a growth of 2 feet this season.—THOMAS RECORD, *Gardener.*

PROGRESS OF HORTICULTURE IN CANADA EAST.

I NOTICED in THE JOURNAL OF HORTICULTURE for the last week in July, an article entitled "Horticultural Progress in the United States and Canada," taken from the *Canada Farmer*. Now, with all due respect for that periodical, I beg to dissent in no small degree from the writer of the article in question. I readily admit that much remains to be done before we can attain perfection in horticulture; but to give such pre-eminence to the Americans for their taste in floriculture is what we of Lower Canada cannot allow, and that because they choose to print some flaming advertisement about some novelty, which (thanks to THE JOURNAL OF HORTICULTURE for our information), is probably, if worth anything, already in Canada. As an instance, the *Cyanophyllum magnificum* was advertised in the American catalogues at the enormous sum of 26 dols., or a trifle over 25 sterling, while we Canadians very quietly imported it from England for the modest sum of 3s. 6d. Doubtless, in a pomological point of view, they are our superiors, which seems to be the sum total of the aforesaid writer's idea of horticulture. Their climate and season are extremely favourable for fruit-growing, neither of which advantages do we possess, having only five months in which to perform all our out-door operations, the other seven bearing a strong resemblance to the same months in the Arctic regions. Moreover, when we consider that not more than twenty years have elapsed since horticulture was mooted in this locality by a stranger visiting Quebec for the first time, it would scarcely be credited; and I safely say now, that as regards taste in floral display, the ancient capital yields to none on this side of the Atlantic. The great number of prizes annually awarded to us will amply testify to the quality, and many of the leading English and French nurserymen can tell of the large orders of new plants, &c., which they forward to us.

Had the writer confined his remarks to Upper Canada, there would have been a fair amount of truth in his statement. If he ever stood in the magnificent Crystal Palace where the Montreal Horticultural Society held their annual Exhibition in 1862, and again in the spacious Victoria Skating Rink in 1866, he might there judge whether progress was perceptible. He might there have seen Dahlias and Hollyhocks which would have been no discredit to a Regent's Park or Crystal Palace Show. Black Hamburg, Alicante, Lady Downe's, and Muscat of Alexandria Grapes, which might have graced a royal board; Peaches, Nectarines, Apples, Pears, Plums, and Figs of the first water. With regard to vegetables there was left nothing more to be desired. Upwards of one thousand greenhouse and stove plants were there, their healthy appearance giving abundant evidence of careful and superior cultivation. Among the stove plants might have been seen superb specimens of the newest Begonias, Caladiums, *Gymnogramma chrysophylla*, *Pteris tricolor*, *Cyanophyllums*, *Dracenas*, *Cycads*, *Marantas*, and many other new and interesting plants.

Did he ever visit the greenhouses of Quebec or Montreal during the winter and spring months? If he did he must have failed to notice the dense masses of bloom which they presented, well-grown Camellias, Azaleas, Acacias, &c., among which may be found almost as fine specimens as can be met

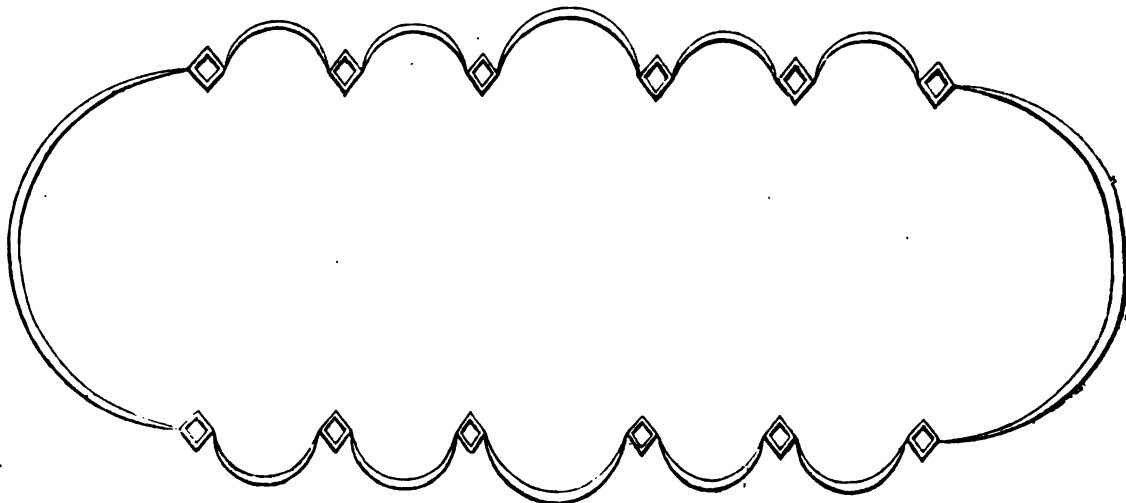
with in England, notwithstanding that the thermometer often descends to 36° below zero.

Again, if he had walked through the various flower gardens in our neighbourhood, and seen the taste displayed in planting, and the excellent quality of the bedding stuff (thanks again to *THE JOURNAL OF HORTICULTURE* for keeping us up to the scratch in this respect) he might have exclaimed with J. Jay Smith, editor of the "*American Horticulturist*," who visited Quebec in 1849 for the express purpose of noting the progress of horticulture there, "Well, well, we had no conception of this; why, one can almost fancy oneself translated to some stately well-kept domain in England." And were that gentleman to visit Quebec now he might pass a still higher encomium, inasmuch as many of our places have undergone a thorough renovation since that time, to meet the requirements of the present im-

proved system of bedding out. We can count almost all of the newest bedding Pelargoniums in our collections, including Mrs. Pollock and Sunset, many of the new Roses, Verbenas, Petunias, Pansies, Dahlias, Hollyhocks (albeit the very cream of the catalogues), Coleus, which by the way grows to immense bushes with us when planted out, Centaurea, Cerastium, &c.

I fear that I have trespassed on your space, yet I cannot look on these few rambling remarks in any other light than as an act of justice to the gentlemen of Lower Canada, who vie with each other in a spirit of friendly rivalry in the adornment of their conservatories and grounds, as well as to the English people, who might otherwise remain in ignorance of the true state of things here; and I doubt much if brother Jonathan could not take a wrinkle from the bullfrogs without losing caste. —JOHN PAXTON, *Gardener, Woodfield, Quebec, Canada East.*

DINNER-TABLE DECORATION.



SMALL TABLE FOR TWELVE DISHES OF DESSERT, À LA RUSSE.

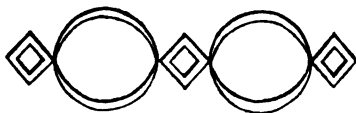
In dinner-table decorations rapid strides have been made during the past few years, affording proof that all ladies and gentlemen are fond of flowers, and there are but very few gardeners who are not equally fond of the beautiful plants and flowers which decorate our houses and flower gardens.

Many gardeners are musicians, all honour to such, I like music myself; and some are poets. It has been said that the person who has no liking for either flowers, music, or poetry, is not a fit subject for existence. All three have their charms, and happy must that person be who takes pleasure in all of them. I once knew a person, the chief of a kitchen garden, who had quite an aversion to flowers, and year after year a small piece of his domain was trespassed upon for new Verbenas, and other plants for trial. This non-lover of flowers at last became so exasperated that he exclaimed, "I suppose they mean to eat flowers." Truly, that man was very much to be pitied. Dinner-table decoration would, I should think, be out of his vocabulary altogether.

Well, as I said before, rapid strides have been made in dinner-table decoration, and the prevailing fashion now is, to have a border of flowers all round the dessert-table, which when well arranged has a most charming effect.

The following rough sketch will give a slight idea to those who may not have tried dinner-table decoration on so large a scale.

Having plenty of tins, we have sometimes made the whole chain, thus—but I think the appearance is too heavy, and too much of the table is occupied.



The semicircles and squares are all separate, and are made of tin, and painted of a bright green. The tins should be from 1 to 1½ inch across, tapering in width to each end, and about three-quarters of an inch deep. They will answer either

for round or oblong tables. When very long tables are required, straight tins about a foot or 15 inches long, of the same depth, and width, are very useful. When a sufficient number is decided upon, they should be filled nearly full with sand, and made tolerably moist, after which they are ready for the flowers.

In choosing flowers for candle-light decoration, bright-coloured ones should be used as much as possible, avoiding yellows, purples, and blues. If scarlet is employed for the top and bottom, and for the two flanks, lighter colours can be used between. For the squares, nothing looks prettier by daylight than the lovely Forget-me-not, which is sure to please the ladies. For the outside border in the tins, the leaves of the Oak-leaf Pelargonium are very useful, and they may be had in use all the year round. Fern fronds are very pretty, but too good to be cut in large quantities.

When flowers begin to be less plentiful, the fruit of various shrubs may be used with good result, and the most effective are those of the "*Pyracantha*," to which I promised to refer. This fruit will take the place of the Scarlet Pelargoniums, and will last a long time if kept moderately moist. Then there is the Alpine Strawberry, which is a very pretty substitute for flowers, besides several varieties of *Crataegus*, *Snowberries*, *Cotoneasters*, *Solanums*, *Capsicums*, *Arbutus*, the fruit from the Sweet Briar, Juniper, &c. For a change, the top and bottom tins might have a mixture of fruit, when the acorns of our brave old Oaks may be used very appropriately, and for the square tins some varieties of Crabs or small Apples will be found useful.

Generally, most flowers and fruits look best when surrounded with their own foliage.

I shall be very glad to have the opinion of your correspondents on this subject, when, perhaps, some other useful things may be recommended which may have escaped my notice, and which would be to the advantage of all who are in any way interested in dinner-table decoration. —JOHN PAXTON, *Thornham Hall, Etc.*

EXPERIMENTS IN POTATO CULTURE.

I beg to direct your attention to the accompanying report from the *Kilkenny Moderator* of the 6th inst. Since its appearance I was requested to examine the crop of Potatoes alluded to, and it is with much pleasure that I find myself in a position to corroborate the statement made with reference to the soundness of that crop.

Mr. Butler informed me that in raising these Potatoes his mode of procedure was to select seed from some of the old varieties, noted for their tendency to resist the blight—such as the *Skerry Blue*—and to select from the produce of that seed, seedlings which he found to be perfectly free from disease, from which he again saved the seed and raised other varieties, which he found to possess still more vigour and less liability to disease. I may here observe that nearly all the varieties he found capable of resisting the disease are dark-skinned. I cannot vouch for the correctness of the theory upon which he bases his success, but I can do so for the success which has attended his efforts to raise a crop of Potatoes perfectly free from disease, and which will yield a much greater weight per acre than any other crop that I have seen in this neighbourhood during the present season.—H. M'CANDLESS, *Kilkenny*, October 30, 1886.

"Within the past few days, having been in the country, and lamenting to an agricultural friend the difference presented in the aspect of the Potato fields at this season now and that which they were accustomed to present some twenty years since, when the stalks used to be green and flourishing, and loaded not only with leaves, but with blossoms or apples, we were surprised at receiving the information that we might, by making a slight détour in our homeward journey, behold exactly the same state of things at the present moment on the lands of John Butler, Esq., Maiden Hall. We accordingly proceeded to test the truth of this information, and actually beheld the phenomenon! We entered a field, near the old Castle of Annamult, in which we found the Potato stalks flourishing, green, and fresh, and just as we remember having seen them all over the country in the month of October in the olden time; and looking to the adjoining fields, to the extent of some four acres, similar appearances presented themselves. The recollection was at once suggested of the days when sportsmen going partridge shooting through Potato fields lost sight of their dogs, from the animals being totally covered in the luxuriant foliage of the vigorous stalks; whereas in these modern and woefully degenerate days there is usually not a Potato stalk, to say nothing of a leaf or blossom, existing on the surface of the ground, and the dogs and sportsmen have as open a country before them as if they were passing through a fallow. But the question was, How came these things to pass at Maiden Hall?"

Mr. Butler happened to be at hand, and politely gave us all the information we required. He has been for years engaged in working out and putting to tangible proof the theory of the re-vivification of the Potato, from the growing of seedlings; and he has on his land the plants of all ages. In his garden are the first year's seedlings, and the second and third years' growths. In his fields are the Potatoes of four and five years' growth, and we believe some of still more advanced age; an acre or lesser portion of land being devoted to a different variety, which all came first from one single speck of seed grown in his garden. And all these varieties of new seed, except one only, present the vigorous stalks, the green leaves, the gay blossoms, or the bunches of apples with which we were familiar in the days gone by, but which have so long vanished from the land. Even the one new variety which we saw withered away in the stalks like the ordinary old Potatoes in the neighbourhood, however, when partially dug for our inspection, did not turn out a single diseased tuber. The tubers of the numerous varieties which rejoiced in the brilliantly green stalks and leaves were all, we need scarcely say, entirely free from the slightest appearance of the black plague spot. One field was so planted as to afford at a glance the most convincing proof of the superiority of the newly raised varieties of Potato to the old kind in common use amongst our farmers. The sowing had been made in alternate strips, under old and new kinds of Potatoes, of different seeds; and an alternate patch of green and of fallow-like land accordingly was presented to the eye. First there was a strip of land under *Scotch Downs*—the Potato, perhaps, in most general use in the surrounding district. Mr. Butler directed a portion of a drill, taken at random, to be dug in our presence, and amongst the produce the occurrence of a diseased tuber was very frequent. The next strip was of one of his new varieties, a mottled pink

and white coloured tuber. A similar portion of a drill of these was dug, and not a single 'black' Potato made its appearance. Next came a strip of Belgian Potatoes, which had been warranted by the person from whom the seed had been bought to be 'free from disease,' but when now put to the test, by digging a portion of a drill, the 'blacks,' although not so numerous as amongst the *Scotch Downs*, soon began to manifest their presence. Again came another strip of the Potatoes grown from Mr. Butler's seedlings, and here the result again was totally different, as not a single diseased tuber turned up in digging. A more practical or convincing test could scarcely be applied than these alternate diggings of the seedling varieties and the old or imported kinds, throughout the large field in which they were thus grown in patches. Of the quality of the tubers of several of the new varieties as food we are also enabled to speak, having been kindly permitted to judge of them in a cooked state, and we must say the result of our investigation in that respect was equally satisfactory. Some were not quite sufficiently ripe for present digging, but all, without exception, were most excellent Potatoes, and vastly superior to the general run of the varieties which our city market ordinarily supplies.

"Thus we consider that we have ample warrant for declaring not merely the possibility, but the actual facility, which our agriculturists have of producing a Potato crop all over the country fully revived, and free from the taint of the disease."
—(*Irish Farmers' Gazette*).

NOTES AND GLEANINGS.

THE guarantee fund for the Exhibition of the Royal Horticultural Society at Bury St. Edmunds, in 1887, amounted last week to £1005.

Mr. D. T. Fish, writing in the *Bury and Norwich Post*, says, "No mere money prizes, although on this occasion they will be liberal, have such an attractive power as gold or silver cups, or other prizes in kind: therefore from the Royal Horticultural Society downwards I hope cups will be given. The local Societies in East Anglia are ready to follow suit with cups for their special favourites. We have already the promise of five guineas from Woodbridge for *Piootees*. Doubtless they will readily change their guineas into a silver cup if desired; and it is almost equally certain that Ipswich, Cambridge, Norwich, Eye, &c., will each present their cups. Then there are the boroughs in East Anglia. Bury will no doubt take the lead; Ipswich, Cambridge, Sudbury, Thetford, Norwich, &c., will follow. Other large towns, such as Stowmarket, Newmarket, &c., ought to be represented by their cups. The borough and county members would join in this graceful service to the constituency and the county; and this is an object in which all parties might combine. I will receive subscriptions for the Suffolk gardeners' cup, in postage stamps and money orders. To allow as many as possible to join in this prize, I suggest that the subscriptions do not exceed 5s. per gardener."

—SLATE rock is ground to a fine powder, says the *Builder*, and in that state mixed with mastic or any bituminous substance to the consistency of a thick paint, in which condition it is applied to canvas, cloth, paper, felt, or any similar substance, for roofing and other purposes. This is doubtless the "elastic slate" of which we have already heard from America. It soon hardens, and by the action of the elements, or by means of chemical action within itself, becomes, it is said, so indurated as to be almost as impervious to the action of fire or water as slate itself, though considerably less brittle. It has been applied as cement for cisterns, tanks, cellar floors, leaky hydrants, pipes, and pumps. Ink-stands have been made of it while in a plastic state, which have become as hard as stone. It has also been applied as a cheap paint to outbuildings and fences.

—ALL vegetable productions seem to be on a gigantic scale in California, the native country of the *Wellingtonia*. We have recorded the size of some, and have read of more of the huge dimensions of the fruits and vegetables produced there, and now we are told that the largest Grape Vine in the world is there. The *Alta Californian* newspaper says that this Vine is at Monticito, four miles from Santa Barbara. "Its dimensions and yield would be incredible, were it not that my informant is a man of veracity, and speaks from personal observation. It is a single Vine, the main stock being 10 feet in circumference. It is trained upon a trellis 60 feet in diameter. My informant, with another person, counted seven thousand bunches, and the estimated yield was 18,000 lbs. of fruit!"

WORK FOR THE WEEK.

KITCHEN GARDEN.

The heavy autumn rains have probably retarded the progress of trenching and other ground operations; the present weather offers abundant opportunities for continuing such work. The garden by this time should be freed from all unnecessary and exhausted vegetable matter, and put generally in a clean and orderly state. *Asparagus*, the beds, if not already attended to, should be manured and dressed for the winter, and a portion taken up for forcing-purposes. *Artichokes* (Globe), must be protected with a coating of leaves; a very considerable store of the same material should be collected for lining hotbeds. A good stock of roots should always be kept at hand in the vegetable-shed; Carrots, Turnips, Jerusalem Artichokes, Horseradish, Beet, Scorzonera, and Salsify should be kept in readiness for use. If the vegetable-shed is, as it ought to be, several feet below the ground level, and has a close-fitting door, the above-named vegetables may be merely laid in heaps. If, however, they are likely to shrivel, store them in layers of clean sand. Let all the remaining *Cabbage* plants still in the seed-beds be pricked out forthwith. If time will permit, *Rhubarb*, *Sea-kale*, and *Horseradish* may be planted now instead of in spring. In all cases be sure to trench deeply and loosen the bottom of the trench. As many *Lettuces* and *Endives* as possible should be transplanted into frames where they may be at least protected from rain. Shutters thatched with reed or straw should be prepared for the protection of *Endive*, *Parsley*, &c., in snowy weather.

FRUIT GARDEN.

Figs against walls will require some protecting material placed over them, more especially in the midland and northern counties. Some wall trees, as *Pears*, *Plums*, and *Cherries*, are often attacked by scale, in which case the infested trees should be well washed with a mixture of soft soap, tobacco water, and lime; half a pint of spirits of turpentine may be added to each four gallons of the mixture when they are much infested. The lime is added to give consistence to the mixture, and to show that no parts of the trees are missed in dressing. Let this be applied during dry weather, if possible, that it may remain on for some time, and before the trees are nailed. *Gooseberry*, *Currant*, and *Raspberry* pruning and planting should be in progress. An adequate quantity of cuttings of the first two should be put in every season to provide for possible losses. Examine fruit-stores often, and remove all fruit which exhibits any symptoms of decay.

FLOWER GARDEN.

The more tender kinds of *Roses* are found in some places to be injured by the late frosts; protection should, therefore, be applied at once to such plants as are yet safe. Also procure without delay the stock of *Briars* for budding upon next year, for unless they are planted before spring they seldom furnish strong shoots for early budding. The late frosts have given the final coup to the declining beauty of the flower garden. Accustomed to the gay embellishments of the summer flowers, we are naturally offended at the barren appearance presented by the stricken beds. If the endeavour be made to repair, in a degree, the lately banished effect, the utmost caution should be used in selecting subjects for the purpose. Any attempt at "make believe" cannot fail to prove offensive to the discriminating eye of taste. I have seen coloured glass and painted stones duly set in Box-edged beds, and lamented over mutilated evergreens, shorn of their fair proportions for the same ill-judged purpose. If the beds are now filled with spring-flowering plants, a regular cleaning up of grass and gravel walks should take place, in order that the whole may have a neat appearance during the winter. If the walks are much soiled a surfacing of fresh gravel should be spread over the principal ones in connection with the flower garden, which will keep up a degree of freshness at a season when good keeping and neatness are the only equivalents for floral beauty that can be offered. Finer weather could not be desired for planting evergreens, &c., than we have had lately. This sort of work should be in active progress. The clearing of all decaying matters from the borders should be unremittingly followed up. It is rather soon, generally speaking, for *Rose*-pruning, but the operation may be performed on some. Transplanting may be done with safety. Protect the roots of all transplanted *Rose* trees with sawdust or wood ashes. A little care may preserve *Chrysanthemums*, particularly those trained against a wall, for some time; the simple protection of a mat will ward off the excess of frost likely to injure them. Take up and store

Marvel of Peru and *Salvia*: patens if not already done, and finish planting bulbs and *Anemones*.

GREENHOUSE AND CONSERVATORY.

Forcing-houses and pits will very soon require to be kept in full activity to supply the constant demand that will be made on them for plants in bloom. Care must, however, be taken before plants are removed to sitting-rooms, to gradually harden them for two or three days, either by placing them in the conservatory or intermediate-house. In addition to keeping the conservatory gay with blooming plants, let the arrangement of the house be occasionally changed by grouping the plants somewhat differently, and adding a few striking ones, as some of the hardiest *Palms*, &c., for effect. Pay attention to the plants intended for succession-blooming; *Analeas*, *Rhododendrons*, *Eranthemums*, *Justicias*, *Lononias*, *Cape Jasmine*, *Euphorbias*, and *Epiphyllums*, for forcing, should be in readiness when wanted. *Narcissus*, *Hyacinths*, &c., should be protected by a frame; when they begin to grow remove the plunging material down to the surface of the pots to prevent them rooting upwards. With the assistance of a garden frame, and some stable-manure or tan to furnish a gentle heat, the *Hyacinth* may be had in flower at Christmas, and with a good stock of bulbs the display may be kept up till April or May. For early flowering the bulbs should be planted early in September, those to flower in spring should be planted during the months of October, November, and December. The best pots are five-inch (48's) for one bulb, and six or seven-inch (32's and 24's) for three bulbs. It may be well to add that three roots grown together in one pot produce a much finer effect than single bulbs. The soil used for potting should be as rich as possible, such as one-half fresh loam cut from a pasture, with the turf decayed in it, and well-decomposed cow or horse-manure, with a small portion of clean sand intermixed. If, however, this soil cannot be obtained, then the lightest and richest at command must be employed instead. Fill the pots lightly with the prepared compost, and place the bulb upon the surface, slightly pressing it into the soil. After giving the newly-planted bulbs a liberal watering, set the pots out of doors on a place where perfect drainage is secured, and cover them with about a foot of old tan, ashes, leaf soil, or any light material. After remaining there for a month or five weeks the bulbs will be sufficiently rooted to render it safe to remove them to a gentle bottom heat of about 55°, introducing the pots in numbers proportionate to the demand at intervals of about a fortnight. In forcing *Hyacinths* the amateur should be careful not to allow the roots to penetrate the fermenting material. A sitting-room window forms a suitable situation for *Hyacinths* while in bloom. *Mignonette* and *Neapolitan Violets* will require abundance of light and air to keep them from damping. As, with the exception of forced plants, most others are now in an inactive state, the temperature of plant-houses should fall to the minimum point consistent with the safety of their inmates. Nothing can well be worse for the development of a healthy vigorous habit in plants than subjecting them to a high temperature at the present season, when light, so important to the healthy action of vegetable life, cannot accompany it. When *Achimenes* and *Gloxinias* are required to bloom early, a few pots may be soon started by plunging them in a little bottom heat. Every decaying leaf should now be instantly removed from the houses.

COLD PITS AND FRAMES.

Abundance of air must be continued as long as possible, avoiding, however, the least wet. As long as the weather continues mild, and a temperature above 32° can be maintained, give air night as well as day.—W. KEANE.

DOINGS OF THE LAST WEEK.

UNTIL the 19th and 20th the flower garden still presented attractions. In sheltered places, or on elevated beds, *Heliotropes* were still in bloom, after the more succulent *Dahlias* had been blackened; yellow *Calceolarias* were almost as fine as in the showery weather of September; *Salvia fulgens* was a mass of bright scarlet; and *Chrysanthemums* of various kinds were very attractive. The frosts have made wrecks of most of these now; and after taking out the sticks which have been used for supports, we shall cut all of the most vigorous and rampant growers into two or three lengths with an old scythe, and then all these remains of the flower-beds, which, where they are, will soon become offensive in mild weather, will mix up with mowings, sweepings, leaves, &c., to make pre-

paratory hotbeds, of a slight heating character, for various purposes; as we find that everything that will heat by decomposition must be made to yield that heat for some useful purpose before it is thoroughly rotten and no more heat can be obtained from it.

KITCHEN GARDEN.

Before the frost came took off a two-light box from a bed that had been used for Cucumbers; and as the frame and bed had sunk too level for the winter's sun, took out the earth, turned over the half-decayed material below, adding a little more litter, and raising the bed much higher at the back, so as to give the frame a rather steep inclination to the south when set on the bed again. Filled the inside to within a foot of the top of the frame with half-decayed leaves, and then with 6 inches of soil, tread it all over, levelled it, and sowed with *Radishes* to succeed those protected in the open ground. Those fresh sown being now in the seed-leaf will require light, and air too in all suitable weather, to prevent their becoming drawn up weakly. All crops that are cool may be kept covered up for a time in bad weather; but whenever artificial heat is applied, all the light possible must also be given, or the plants will suffer from the stimulus imparted to mere extension, without being able to obtain the means for consolidating their tissues. We have seen *Radishes* grown on a slight hotbed destroyed as to the stubby beauty of their appearance, from being shut and covered up in severe stormy snowy weather for three days, whilst those in the open ground with a rough frame thrown over them, and kept from the light for three weeks, were, when uncovered, just as fresh as when they were covered up. Twice or thrice in our experience, in severe weather, we have had *Cauliflower* under hand-lights, just after the ground was crusted and the leaves of the plants a little hardened with frost, covered up from four to six weeks, night and day, and after this long enforced sleep the plants looked just as they would have done had they passed the usual hours of one winter's night under such protection. Their safety and ultimate hardiness consisted in the dormant state in which they were kept, and the absence of all stimulus to extension.

Asparagus.—From just such another bed as was used for *Radishes* took out the soil, and raised the frame at back a foot higher to give it more slope. Turned over the old hotbed, adding enough of grass and leaves to raise the bed to the greater height of the frame at back; put in 4 inches of half-decayed leaves and 1 inch of soil, and on that packed the lifted roots of *Asparagus*, placing them so that the frame should be pretty well filled, with the crowns close together; put a little fine soil over all, watered with warm water, and then covered with 2 or 3 inches of leaf mould left loose, and put the sashes on. The turning of the bed and the addition of a little fresh material have yielded a nice mild heat, such as forced *Asparagus* delights in. Light will be of little consequence for this crop until the shoots are 2 or 3 inches in length. Put a nice piece of Mint, &c., in a corner. Such a two-light box well packed will hold a large quantity of roots from the open air, and will yield in proportion a great amount of cutting.

Rhubarb and Sea-kale.—Made a small hotbed in a corner of the Mushroom-house, from 12 to 15 inches deep, and on that placed roots of *Rhubarb* with good balls, and a number of pots filled with the roots of *Sea-kale* well packed together. We prefer at present to have these roots in pots when placed in the Mushroom-house, as we can thus have it in our power to hurry on or retard the cutting. What is rather singular as respects *Rhubarb*, we find that the large-growing kinds come earliest when forced at this season, though several of the smaller kinds produce much the earliest in the open air. To have forced *Rhubarb* green, and to have *Rhubarb* and *Sea-kale* in the simplest way by a hotbed, and a close wooden box, see a recent Number.

Cauliflower.—Took up a nice lot with balls, and turned them into an earth-pit, where they can have the protection of some old sashes, and where they would do well if we could keep marauders from them. The very first night the *Cauliflowers* were in their new quarters a rat left his leg behind him in a trap, and that the poor thing had gnawed through with his teeth to get off. Nearly fifty have been trapped in about a month, and still they come.

Mushroom-house.—Earthed down a second piece, and surrounded the spawn heap out of doors with some mowings from the lawn and litter, as it was becoming too cold, though the spawn was running. We are now needing much a good quantity of tree leaves for all such heating purposes, but the high winds have carried Elm and Beech leaves far beyond our juris-

diction, and Oak leaves have not yet fallen sufficiently here to make it worth while to collect them.

The chief work, whilst the ground was hard and dry, was wheeling manure and compost, as it is always important in doing work not to make work. In places where manure was wanted, and the ground not cleared, heaps were made, so that the work could be done at any suitable time, and no necessity involved of wheeling on the walks. A barrow should never be seen on a walk unless as an absolute necessity. In bad weather the wheel cuts the walks up, and renders future work necessary to put them right, and in fine weather the wheels leave their marks behind them, and thus do away with the ideas of privacy and high-keeping. When much wheeling is done from a soft heap, a little long litter thrown down will keep the wheels of the barrow clean at starting, and thus avoid future brushing up; but this simple expedient, if not insisted on, will run a good chance of being neglected nine times out of ten.

FRUIT GARDEN.

Much the same as in the previous week as to *Strawberry* plants in pots for forcing; as they are now chiefly out of doors we threw some dry litter all over them; as after such mild and wet weather they would have been easily injured by frost. They would have been under protection long ago, but we had no place to put them in at liberty, except earth-pits, where we could keep frost from them well enough, but where last season we suffered woefully from rats, having had to wheel away barrowloads that had not a vestige of an eye or a bud left. We think we must try and house them in the orchard-house, though that is scarcely ready. We have found they are safer on the open ground protected as above, than in any earth pit, for the very appearance of protection seems to bring rats and mice to them. A good many will be placed in frames now empty, as soon as we can obtain a few leaves merely to make the plants somewhat warmer than they would be outside, and that will be a good preparation for placing them afterwards in houses.

ORNAMENTAL DEPARTMENT.

The frost has not yet been severe enough to stop transplanting and planting, but our chief work has been clearing up, and taking the now unsightly materials from flower-beds.

Housing Plants.—By the 18th we managed to have nearly all tender plants, except *Calceolarias*, in quarters where, in very severe weather, a little fire heat could be applied. This has enabled us to set some old sashes at liberty, which will come in for such things as mentioned above, and for early *Potatoes*, when we can obtain something a little warm to place beneath them. This moving of the plants, besides saving time in protection, prevents the losses that are apt to take place from damping in cold pits and cold frames in winter.

Position of Plants.—Where there are numbers of houses all thought on this subject may be reduced to a minimum, but the matter is of importance where only one house is employed for ornamental purposes. Then plants that will stand most air and most cold should be set as far apart as possible from those requiring more heat. Thus *Cape Heath*, *New Holland Acacias*, at least a good portion of those grown in greenhouses, will bear a rather free current of air, if it ranges from 35° to 40°, and so would *Andersonias*, *Beanfortias*, *Camellias*, *Casuarina*, *Clianthus*, *Coronilla*, *Cytisus*, *Delioses*, *Eugenia*, *Lep-tospermum*, *Metrosideros*, *Myoporum*, *Psoralea*, *Pultanea*, &c., whilst such families of plants as follow should stand at the opposite end of the house, so as to have no direct current of air beating on them at that temperature, but enjoy an average temperature of little less than 45°:—*Chorezema*, *Podolobium*, *Platylobium*, *Gastrolobium*, *Gompholobium*, &c., *Kennedy*, *Leschenaultia*, *Pimelea*, and more especially such plants as *Crowea saligna*. The *Epacris*, and the *Zonale Pelargoniums*, and softwooded plants, as *Cinerarias* and *Primulas*, would well occupy an intermediate site; and thus, though the air of the house may be freshened for all, the plants will be exposed to the force of the current very unequally, and the temperature at the closer end of the house will be higher than at the other end.

Watering.—This should now be done with great care; and so as to spill as little as possible, to prevent an undue quantity being raised by evaporation to be deposited on the glass, and thus condensed, to fall over the house like a shower. Even in greenhouses, if we have a continuance of severe frost, and much fire heat be wanted, it may be necessary to damp the paths and shelves that moisture may be easily obtained for the atmosphere of the house, instead of the dry air sucking moisture from the stems and leaves; unless, however, we be

visited with a dry, severe frost, we need not trouble ourselves, after so much rain, with a moist atmosphere among greenhouse plants at present. It will be better to keep them comfortable with as little fire heat as possible.

Chrysanthemums, now in their beauty, always bloom better and keep in bloom longer when protected in a cold glass house and without any fire heat, or very little. At one time we used to have a fine show almost up to Christmas, and sometimes beyond it, in a verandah partly roofed with glass and partly with zinc, and having glass in front. The air inside being still, we have seen the *Chrysanthemums* not in the least injured when the temperature was 10° below the freezing point outside, and even lower than that.

Shading.—This is little needed at the present season; but sometimes it is required when there are sudden changes from very dull to very bright weather, or the plants are brought from a moist close place, though cool, to a place more exposed, where the rays of light will strike them more perpendicularly, and where the position is drier. For instance: some Cucumbers began to show distress in a pit on the first bright day after a week of dull weather, and needed shading for an hour or two, and a bedewing of the leaves from the syringe. A number of rather large Cinerarias, that we wished to bloom soon, were moved from a flat pit, where they were moist, to the shelves of a Peach-house, at an angle of 45°, and in the first bright day the sun would have curled up their large lower leaves if they had not been syringed and a little whitened water put on the glass outside opposite to them. We might have saved shading the glass if we had lifted the plants down to the floor for an hour or two until they became used to the new position; but we had no room on the floor, and the glass could be sprinkled in a quarter of the time that the moving of the plants would have required.

Ventilation.—Unless houses are very close little will now be needed except in bright sunshine, and what little air is given should come from the highest part of the house, that the cold air may be heated before it reach the plants. It is best in every way to make as much use of the sun as possible for keeping the plants healthy and growing. Keep out as much cold air as possible, and give no more fire heat at night than will suffice to keep the plants safe and moving on quietly. It is better to allow a house kept generally at about 45° at night to sink to 38° in a very cold night than keep up the regular heat by extra fires.—R. F.

COVENT GARDEN MARKET.—NOVEMBER 24.

But little alteration has taken place during the week either in the supply or demand, and prices have been fully maintained. Of hothouse Grapes and Pines there are sufficient for all requirements, but good dessert Apples are extremely scarce. Of Oranges the arrivals continue very heavy. Late frame Cucumbers and Radishes are to be had very good, and of Potatoes there is a fair supply of good quality. All green vegetables are abundant.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.	
Apples	½	sieve	2	0 to 3	0	Melons	each	2	6 to 5	0
Apricots	doz.	0	0	0	0	Nectarines	doz.	0	0	0
Cherries	lb.	0	0	0	0	Oranges	100	8	0	12
Chestnuts	bush.	12	0	20	0	Peaches	doz.	0	0	0
Currents	½ sieve	0	0	0	0	Pears (dessert) ..	doz.	2	0	4
Black	do.	0	0	0	0	kitchen	doz.	2	0	4
Figs	doz.	0	0	0	0	Fine Apples	lb.	3	0	6
Filberts	lb.	0	0	0	0	Plums	½ sieve	0	0	0
Cobs	lb.	0	6	1	0	Quinces	doz.	8	0	4
Gooseberries ..	quart	0	0	0	0	Raspberries	lb.	0	0	0
Grapes, Hothouse..	lb.	2	0	6	0	Strawberries	lb.	0	0	0
Lemons	100	8	0	14	0	Walnuts	bush.	10	0	20

VEGETABLES.

		s.	d.	s.	d.			s.	d.	s.	d.
Artichokes	each	0	2 to 0	4	0	Leeks	bunch	0	2 to 0	0	0
Asparagus	bundle	0	0	0	0	Lettuce	per score	1	0	1	6
Beans, Broad	bushel	0	0	0	0	Mushrooms	potl	1	6	2	6
Scarlet Run	½ sieve	0	0	0	0	Must.d. & Cress, punnet		0	2	0	0
Beet, Red	doz.	2	0	8	0	Onions	per bushel	2	0	8	6
Broccoli	bundle	1	0	1	6	Parsley	doz. bunches	2	0	8	0
Brus. Sprouts	½ sieve	2	0	3	0	Parsnips	doz.	0	9	1	8
Cabbage	doz.	1	0	2	0	Peas	per quart	0	0	0	0
Capicums	100	2	0	4	0	Potatoes	bushel	2	0	4	0
Carrots	bunch	0	4	0	6	Kidney	do.	2	0	4	0
Cauliflower	doz.	2	0	6	0	Radishes doz. bunches		0	6	1	0
Celery	bundle	1	0	2	0	Rhubarb	bundle	0	0	0	0
Cucumbers	each	0	4	1	0	Savoy	doz.	1	0	2	0
Pickling	doz.	0	0	0	0	Sea-kale	basket	8	0	4	0
Endive	doz.	2	0	0	0	Shallots	lb.	0	8	0	0
Fennel	bunch	0	8	0	0	Spinach	bushel	2	0	8	0
Garlic	lb.	1	0	0	0	Tomatoes	per doz.	0	0	0	0
Herbs	bunch	0	8	0	0	Turnips	bunch	0	4	0	6
Horseradish	bundle	2	6	4	0	Vegetable Marrows	do.	0	0	0	0

TRADE CATALOGUES RECEIVED.

Jabez J. Chater, Gonville Nurseries, Cambridge.—*Catalogue of New Pelargoniums, &c.*—A Few Practical Hints on the Culture of the Pelargonium.

T. S. Ware, Hale Farm Nurseries, Tottenham.—*Catalogue of Evergreens, Deciduous Trees, Conifers, American and Climbing Plants, Fruit Trees, Roses, &c.*

TO CORRESPONDENTS.

. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

QUEEN ANNE'S POCKET MELON.—We have more of the seeds of this Melon, and can send three seeds to each of about one hundred applicants if they send a stamped and directed envelope. We had nearly three hundred applications before.

EVAPORATION AND RAINFALL (M.).—It is quite true that the evaporation, as stated in the "Farmer's Almanac," which is always to be relied upon, is only 15 inches from the soil annually, whilst the rainfall in the same time is about 23 inches. "What becomes of the other 8 inches?" may be explained by taking into account the evaporation from trees and other plants.

PLASTER FOR TREES (W. M.).—To the face of the cut where a branch of a tree has been sawn off, melted pitch applied when the wound is quite dry will exclude wet and not prevent healing. Burning with a red-hot iron, and then applying melted pitch will also stop the bleeding of late-pruned Vines.

BOOK (Y. Z.).—If you need immediately a work on laying out villa gardens buy London's "Villa Gardener." If not in a hurry for such a work wait until the spring, when we purpose publishing one now printing. (Dr. J. Carmichael).—"The Vine Manual," which you can have free by post from our office if you enclose thirty-two postage stamps with your address.

PLANTING FOREST TREES (Cas).—We know of no work devoted to the subjects you name. Martyn's edition of Miller's "Gardener's Dictionary" includes them, but it includes much more.

HAYS'S CONSTANT STOVE (S. B. F.).—There is not only no objection to using a pipe to carry off the fumes from the charcoal, but the stove is constructed so as to have a pipe fitted on for the purpose. Professor Pepper used one. If the pipe is short, merely passing into a chimney, it would not increase the consumption of fuel materially.

HOUSE FOR VINES AND PLANTS (a. b. c. d.).—You would see by an article at page 365 that you may have Vines and plants in the same house. We can perceive no impropriety in the proposed plan of planting the Vines outside and taking them in below the wall plate; we have done the same ourselves; but we would prefer planting them inside and letting the roots out. We would have preferred 6 inches of concrete to 6 inches of beaten chalk for the bottom of the border. We would make sure that the water could escape; and for drainage above the chalk, instead of 3 inches of loose chalk, we would have preferred from 6 to 12 inches of stones, bricks, &c., and then the reversed turf. As to the rest, we would give less dung, and supply its place with lime rubbish, if it could be obtained, and the quantity of bones you propose.

PLANTING A VINERY (F. B. N. C. G.).—The Vines will do very well against the back wall if the pipes are not nearer than 15 inches from the wall. Do we understand aright that the two pipes are there to be 6 inches below the surface of the soil intended for the Vines? Then, if covered, they will do little good in regard to heating the atmosphere of the house, and the roots of the Vines will have to be beneath them. If we knew your object we might advise better; but for general purposes the following lists will be found good:—For the first house, with six hot-water pipes, for the back wall, one Dutch Sweetwater, one White Frontigan, two Muscat of Alexandria, one Bowood Muscat. For front Vines, one Muscat Hamburg, one Royal Muscadine, three Black Hamburg, two Trentham Black. For the back of the cool house, one Golden Hamburg, one Bowood Muscat, one Muscat Hamburg, one Trebbiano, one Black Prince, one Barbarossa; and the seven in front we would divide among Black Hamburg, Trentham Black, and Lady Downe's, the latter chiefly to hang long.

FLOWER GARDEN PLAN (*Hoya bella*).—Your flower-garden plan is good and simple. Much the same plan has been previously given, but without the sharp points and angles. These points in your figures make the plan look more artistic; but for planting they are better when rounded. Your proposed planting will look very well, but, considering also, we would incline to put *Centaurea* round Stella, and the variegated *Alyssum* round Christine. *Saponaria* will do very well round your *Calceolarias*, if you let it run in among them a little; it is best left to itself, and therefore does not make such a good edging as *Purple Verbena* or *Iris*. Golden Tom Thumb *Pelargonium* will do very well round *Ageratum*, but something of the same habit of growth will do better.

COB NURS (Mrs. C. T. Parker).—They are from 8d. to 1s. per lb. in Covent Garden Market.

SPIRAL CORDONS OF PEACH TREES (O. H.).—We should plant these, which are 15 inches in diameter, 4 feet from each other in the rows, and these 4 feet apart. Hay's constant stove may be seen and purchased at Mr. H. Baker's, 17, Hary Lane, Great Tower Street, London.

WALL PEARS FOR WINTER (H. T. B.).—Against your S.W. wall you may plant Beurré Bosc, Beurré Diel, Colmar, Duchesse d'Angoulême, Gansel's Bergamot, No Plus Meuris, Passe Colmar, and Winter Nellis.

COVERED GARDEN BOUQUETS (Bouquet, Ireland).—For balls and morning parties they may be had at any price from 2s. 6d. to 21s. They are sold in the Centre Arcade, Covent Garden, by Messrs. Webber & Co., Mr. C. Buck, Mrs. Bennett, and Mr. Dickson.

TRITHELIA AUREA, GRANDIFLORA, AND LAXA (M. W. M.).—Our correspondence wishes to be informed where bulbs of these can be obtained.

ZONALE PELARGONIUMS (E. S.).—A lengthy list and description of the best Zonale Pelargoniums is in this Journal, page 119, of No. 381. Your question is too indefinite for us to make the selection, but you can choose from the names there given. They will not disappoint you. There are many others perhaps as good, but none better can be selected from the hundreds now in cultivation.

SHEDDING CAPILLUS-VENERIS (C. S.).—It is a very fine specimen, but we do not see that it differs from the normal form, except in the leaflets being rather more crowded and larger than usual.

PELAGONIUMS (Nili Desperandum).—We cannot insert your commendations unless you furnish your name and address for our private satisfaction.

PRICES IN FRANCE (J. W. B.).—It is quite true that the prices of some plants are lower in France than in England; but when the differences of climate, of rent, and of labour are considered, there is no avoidable difference in the charges.

EXAMINATION (A. E. W.).—If you mean the examination at the Society of Arts, you had better write to the Secretary of the Society, Adelphi, London.

EXCHANGES (H. P., Peterborough).—It has been tried and signally failed. Few of the parties were satisfied, great trouble was occasioned, and many absolute frauds occurred.

FORCING SEA-KALE (A Greenhorn).—You need not despair of having a few dishes of Sea-kale fit to eat by Christmas, and all the finer if you reduce the temperature to 50° or 55°, by taking off the fermenting materials nearly down to the level of the Sea-kale pots; but do not disturb the warm material which is closely packed round them. Should sharp frost set in see that the top covering is sufficient to keep the frost out. Mr. Weaver, gardener to the Warden of Winchester College, covers up with grass and leaves mixed, or with fresh manure from the stable that has not been previously turned over to sweeten. With either he covers the pots just enough to give a heat of from 60° to 65° to begin with, thus warming the soil round the plants to start them. This heat naturally exhausts itself in the course of a few weeks, and the cooling is hastened by the weather. He always inserts a pointed stick in the thickest part of the bed in order to ascertain the amount of heat. The growing temperature should be from 50° to 55°. This will always insure good stocky Sea-kale. Mr. Weaver says that the plan recommended by Mr. Fish (see page 371), is excellent. Mr. Weaver filled a box, 2 feet 9 inches deep, 18 inches wide, and 34 feet long, with strong one-year-old plants to within 9 inches of the top, put on the lid, placed two small blocks of wood for the box to stand upon, so as not to touch the ground, and then packed the box all round with a quantity of grass and leaves, so as completely to bury it. This was done on the 8th of November, and on the 21st he found that the crowns had made about 1 inch of growth in the fortnight—an easy method of obtaining a dish of Sea-kale.

SOILING CISTUS SEED—MOVING PAMPAS GRASS (F. N.).—If by the "Alpine Rose" you mean the Rock Rose or Cistus, the seed should be sown in a pan three-parts filled with crocks, filled up to the rim with sandy peat and loam, freely intermixed with pieces of limestone broken small. Scatter the seeds evenly over the surface, after making it level, and cover lightly with fine soil. Give a gentle watering, and place in a frame with the least possible heat, keeping close and moist until the plants appear; then admit air gradually, and expose fully, keeping the soil moist, but avoid making it wet and sour. When sufficiently large to handle prick off in a warm sheltered situation out of doors, affording a slight shade from bright sun until established. Sow the seed early in April. The Pampas Grass may safely be moved between the present time and May. We prefer March and October, but the plant can be lifted with such a good ball that it can be removed safely at any time, except when in active growth.

RASPBERRIES IN WET GROUND (Vicar).—Raspberries do not succeed in ground such as yours, and the death of the canes we should attribute to the cold, wet condition of the soil. You will do well to defer planting the Strawberries until March, and if you lift the plants with a nice ball they will not suffer from being planted then.

LEAF MOULD INFESTED WITH GRUBS (Troublesome).—You may drive away the grubs by turning over the mould twice or thrice, and sprinkling over it fresh dry soot at each turning, and as the work proceeds.

CAMELLIAS AND AZALEAS SICKLY (Idem).—Your Camellias and Azaleas have been ruined, as many are, by their having been injudiciously placed out of doors in summer. We have no doubt as to the roots being all but dead from the exposure of the pots to the drying influences of the atmosphere. Under careful treatment the plants may recover, but do not put them out of doors at all, but keep the house cool by affording plenty of ventilation.

RHODODENDRONS AND GLADIOLUS AMONG SHRUBS (Idem).—The Rhododendrons and Gladiolus will do in the end of a bed of shrubs if the roots and foliage of the latter do not interfere with them. The Rhododendrons should be so far apart as to allow of the Gladiolus being grown between them.

PRUNING APRICOT, PEACH, NECTARINE, AND PLUM TREES (M. L.).—Now is the time to prune Plum trees. The beginning of February is a good time for Apricot trees, and from the middle of February to the beginning of March is a good season for general pruning. All pruning should be done during mild weather, and no winter pruning should be practised except when growth is desired, or the head requires rearranging.

HEATING BY GAS (W. H. Shrubsole).—If you will send four postage stamps to our office with your address, and order 269, New Series, to be sent to you, you will find in it drawings and descriptions of various modes of heating by gas. Your plan we do not think would answer unless an extravagant consumption of gas were incurred.

VINES (Frances).—Your best plan would be not to move the Vines if you erect the new on the site of old conservatory, but to protect their stems by a covering of haybands wrapped round them; the heads should be protected with mats, so far as they are likely to be injured by bricks and mortar falling on them: but if you propose making a new border, or moving the house, then you may take the Vines up before they commence growth, plant them against a south wall, and move them to the new house in October. If the Vines are at all old it would be preferable to have young ones, which will produce in the second year if liberally treated during the first season. The old Vines cannot be expected to do much, if anything, during the first year, as it will take them some time to recover the two removals.

DESTROYING THRIPS (E. H.).—The leaves have every appearance of having been infested with thrips. Your remedy will be to fill the house with tobacco smoke, choosing a calm evening for the operation. Take care that the house shall be dry when shut up, and the foliage as well. Fill the house so full of smoke that not a plant shall be seen through the glass. Repeat this the second night, and whenever the pest presents itself fumigate immediately. To prevent the attacks of thrips maintain a moist healthy atmosphere by affording copious syringings. The Fuchsia leaves swarm with red spider. The house has probably been kept too dry and ill-ventilated. The season of growth in Fuchsias being now over, little can be done in the way of syringing the plants, otherwise that is the best antidote for red spider. Make a solution of soft soap at the rate of 2 oss. to a gallon of water, and, laying the pots on their sides, syringe the plants with the solution, directing it against the under side of the leaves, and turning the plants over so as to thoroughly wet every leaf and stem. It would be well if the solution were heated to a temperature of 140°. The operation should be performed outside the house.

ARECA BAURI, DRACENA FERREA, SEAPORTHIA ELEGANS, AND CORDYLIN RUBRA CULTURE (F. W.).—The culture of these is the same as that of fine-foliated plants generally—viz., a brisk heat and abundance of moisture, both in the atmosphere and at the root, during summer, or when the plants are in active growth, with a moderate amount of air; and in winter a moderately dry atmosphere, and no more water at the root than is sufficient to maintain them in a healthy state. The first, second, and fourth require the temperature of 65° at night, and from 75° to 90° by day in summer, and one of from 55° to 65° in winter; and the third a temperature of between 55° and 75° in summer, with a rise from sun heat, and one of between 40° and 45° in winter. A compost of equal parts of turfy loam, peat, and leaf mould, with a free admixture of silver sand, suits them well; it should be chopped with a spade, but not sifted, and good drainage must be provided.

PEARS AND APPLES FOR BUSHES AND PYRAMIDS (West of Yorkshire).—The Pears we recommend are the following, on the Quince: Louise Bonne de Jersey, Beurré Superfin, Beurré d'Amanlis, Beurré Diel, Alexandre Lambré, Williams's Bon Chrétien, Colmar d'Été, Fondante d'Antonne, Gansel's Late Bergamot, Beurré Hamecker, Doyenné du Comice, and Beurré Nantais. Apples on Paradise stock: Red Astrachan, Ribston Pippin, Sturmer Pippin, King of the Pippins, Scarlet Nonpareil, and Court of Wick. Plums: Kirke's, Jefferson, Early Prolific, Guthrie's Late Green, Green Gage, and Yellow Magnum Bonum. Your soil being shallow you may plant the trees on a slightly raised mound, placing a barrowful of fresh soil to each tree, planting the tree thereon, and covering the roots with fresh soil. Rivers's "Miniature Fruit Garden" will suit you.

KEEPING GRAPES WHEN CUT (Idem).—Let them be cut with 6 inches or more of the wood attached to each bunch, dip the cut ends of the wood in hot sealing-wax, and hang them up in a cool, dry, airy room. We have also kept them well by sticking the end of each shoot attached to the bunch in a root of Mangold Wurzel; but a cool, airy situation, and the Grapes in a good condition at the time of cutting, are the most important points.

DESTROYING THRIPS ON VINES AND PLANTS (Idem).—It is easy to clean the Vines when they are pruned. They may then be painted with a rather strong solution of Gishurst compound, tobacco water, sulphur, and clay. Plants may also be partially cleaned by dipping them overhead in an ordinary mixture of Gishurst, and giving three or four successive smokings. Asaleas are very subject to this pest, and the plan last mentioned is that which we adopt to free them from it before they are housed in the autumn.

WHITE SCALE ON HEATHS AND BORONIAS (H. H., a Subscriber).—If very much affected throw the plants away, clean the house well, and procure others. Much good may, however, be done by touching the parts affected with a camel's-hair pencil or feather dipped in sweet oil. This is the best remedy which we have tried, it is easy of application, and does no harm, nor is it offensive or unsightly like some remedies.

RHODODENDRON NUTTALLII LNEY (E. S.).—We do not advise the cutting or heading-back of the plant. Its legginess might have been prevented when the plant was a foot or 18 inches high, by the simple process of taking out its point, which would have caused the side eyes to have broken more or less. If the shoots from these had had their points rubbed off after a couple of years' growth, they would have produced a large branching head. As it is, we would bend down the head so as to bring it nearly to a level with the rim of the pot, and tie it there with bast matting, taking care not to break it. This may check the sap and cause some of the dormant eyes to break, and if shoots are produced near the base, the head may be cut back to that point. Your treatment, we presume, consists in merely affording the plant the protection of a cool house in winter, and keeping it in the open air in summer. This is correct providing the change from the house to the open air is not too sudden, or effected without well hardening-off the plant, and the removal should take place either prior to or after the growth. During summer the pot should be plunged to prevent excessive evaporation from the sides, and consequent injury to the roots, which are delicate and situated near the sides. The plants are now losing their leaves from the atmosphere of the house being drier than the external air. It is usual for plants that have been placed out of doors in summer to lose their leaves when taken in-doors.

MANURING GROUND FOR POTATOES (J. R. Beyton).—We should apply the manure now and dig it in. There is less to fear on account of the rains washing the "goodness" out into the subsoil, than in throwing the manure into a heap to heat, in which way most of its fertilising agents will be lost in the atmosphere. If the manure be applied now they will be retained in the surrounding soil, and being more thoroughly incorporated with it than were this done at planting-time, the haulm will not be so gross, but more sturdy and less liable to disease.

PLANTING ASPARAGUS (Idem).—Your soil will answer well for Asparagus if the subsoil is well drained. Trench the ground to the depth of 3 or 8 feet, and give a very liberal dressing of manure. Plant three rows in a bed, allowing 1 foot between the rows, and the same distance between the plants in the rows. The outside-rows should be 1 foot from the alleys, which ought to be 3 feet wide. The beds may be on the level, and the plants we recommend are those two years old; any kind will do, size depends on culture.

POTATOES (Idem).—You will have seen Mr. Fenn's list. On light sandy soil we have grown successfully Cheshire Pink Eye, British Queen, and Sutton's First Regent. Your tubers are small from the little distance which you allow between the plants. The sets should be a foot apart in the rows, and these not less than 2 feet 8 inches asunder.

SHRUBS AND VEGETABLES FOR SEASIDE (H. M.).—We have seen the *Laurostictus* do remarkably well within a stone's throw of low water; also *Eunonymus*, *Arbutus*, and most deciduous shrubs; but we never saw *Rhododendrons* or other American plants in a healthy condition in such a place. Amongst vegetables, all the Cabbage tribe thrive remarkably well; so do Potatoes, Celery, Asparagus, and of course Sea-kale. Peas and Beans do not succeed so well, nor in general do Onions, Carrots, and other roots. It is good practice on the part of a fresh resident at such a place to look out for some of the best examples of garden management in the neighbourhood, and ascertain what succeeds and what fails, he can then act accordingly; not that he need not try what another has failed in accomplishing, but he will be better able to judge of the probable result.

PLANTING SCOTCH AND SILVER FIR TREES (Constant Subscriber).—As you mention having dug the holes on high moorland near the coast during the summer, the soil that will come in immediate contact with the roots will be to a certain extent sweetened and rendered more fit for them; we would, therefore, plant at once if the weather continued favourable. You are quite right in affording the Silver Firs the best positions, and we may add that the places we have seen them succeed best in are the sloping hillsides or gullies where moisture abounds, but is not stagnant. In your case we would plant them on the slopes facing the interior of the country, and as far away as possible from the sea spray. A dwarf Pine, *Pinus Mugho*, or *P. maritima*, is said to endure the air of the coast best of any, but it seldom or never attains the dimensions of a timber tree; and we fear in your case some disappointment will arise from the close proximity to the east coast. No amount of care in planting can prevent this having an effect; but we may remind you of one evil from which such plantations sometimes suffer, and that is the attacks of rabbits. We once made a plantation of similar extent to that which you intend forming, and lost all by these vermin; the locality, however, was more inland.

NAMES OF FRUIT (J. Wilson).—Your Apple is Downton Pippin. (T. R. an Old Subscriber).—Apples: 1, Waltham Abbey Seedling; 2, Water-Quoining; 3, Dumelow's Seedling. Pears: 2, Glou Morceau; 3, Duchesse d'Angoulême; 4, Beurré Diel; 5, Pige de Naples. Send other specimens of the two Ferns by post. (J. M. M.).—Your Pear is *Joséphine de Malines* (H. E., Kent).—1, Selwood's Reinette; 2, Beauty of Kent; 3, Beeshaewell; 7, Pigeon; 8, Glory of Wilts; 9, Sam Young; 10, Bergamotte Espéran Pear.

NAMES OF PLANTS (J. T.).—Berries of *Crataegus coccinea*; 1, *Chimonanthus fragrans*; 2, *Escallonia rubra*. (J. D.).—1, *Polystichum aculeatum*; 2, insufficient for determination; 3, *Asplenium bulbiferum*; 4, *Asplenium adnigrum* (W. B. R.).—*Rhipsalis salicornoides*. (F. B.).—1, *Polypodium pectinatum*; 2, *Goniophlebium subauriculatum*. (F. W. M.).—1, *Ecdycheilum coronarium*; 2, *Dipteracanthus Herbetii*. (E. S.).—*Albizia lophantha*, a greenhouse plant. (J. E.).—1, *Asplenium flabellifolium*; 2, *Lastrea decomposita*; 3, *Melaleuca hypericifolia*; 4, *Acacia dolabriformis*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending November 24th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun... 18	29.835	29.798	53	30	48½	48	S.	.14	Partially overcast; cloudy; overcast; slight rain; slight frost;
Mon... 19	29.960	29.887	54	28	48	48	N.W.	.00	Rather boisterous; fine; very fine; clear; frost. (rain at night.
Tues... 20	30.117	29.960	45	19	47	48	N.W.	.00	Clear and frosty; very fine; cold wind; frosty at night.
Wed... 21	30.119	30.041	48	24	46	46½	N.W.	.00	Clear; very fine, with bright sun; very fine; frosty.
Thurs... 22	30.160	30.096	46	37	45	45	S.W.	.04	Light clouds and fine; overcast; rain at night.
Fri... 23	29.888	29.644	56	30	45	45	W.	.01	Overcast; lightly overcast; fine; slight shower at night.
Sat... 24	29.885	29.712	49	39	46	45	N.W.	.01	Fine throughout; overcast; slight rain at night.
Mean	29.995	29.869	49.14	28.85	46.50	46.50	..	0.20	

POULTRY, BEE, and HOUSEHOLD CHRONICLE

GAME FOWLS.

As exhibition birds, Game fowls have been brought to a very high state of perfection; but whether this result has been achieved at the expense of heel and courage—properties which were formerly, and even at the present day are still considered by some as indispensable qualifications, I cannot say. The management and breeding of Game fowls require nice discrimination in the choice of stock, crossing to advantage, destroying all defective birds, and selecting those that are short and close-feathered, with good feet, long necks, &c., and a sound constitution. Some birds are very difficult to keep in health, and whenever you find any that often turn pale or even of a dark hue on the face, rest assured they have not a good constitution.

All exhibitors are not breeders, having, perhaps, neither the time nor inclination for the pursuit; but an ardent lover of Game fowls finds excitement in it from beginning to end, from the gathering of the favoured eggs to be placed under the well-known careful hen, to the time when the young chicks start through their shelly casement into open day. How watchfully they are guarded! and with what pleasure he prepares the food best adapted to their health! Such is the inducement that urges the ardent breeder, and carries him full of hope and pride to the exhibition pens. In days gone by Messrs. Archer, Mues, and others have bred well and successfully, their stock being much appreciated, and I think Mr. Aykroyd, into whose hands some of Mr. Archer's stock fell, has not let them degenerate—indeed his Brown Reds have established themselves as birds of standard excellence. Mr. Williams's Black Reds and Mr. Sunderland's Piles have also won a position and realised good prices, and no doubt this excellence has been attained by judicious crossing to advantage: therefore, I would advise all

breeders to let no inducement lead them to introduce fresh blood without a full knowledge as to the result.

Although much has been written in opposition to in-and-in breeding, I have found it answer well. Some years ago a well-known and experienced breeder for more than twenty years bred from the same stock without any change of blood, and the produce did not deteriorate in size, bone, or constitution. I have bred very successfully from mother and son, brother and sister, and father and daughter. Fresh blood is all very well when the selection is made judiciously.

"NEWMARKET'S" remarks are, with a few exceptions, well worthy of notice. My own views are opposed to the following points—viz., an upright or erect tail, well fanned, the sickle feathers full-curved and well rounded. I admire a tail which sweeps nicely back from the head and neck, and instead of its being open, or fan-tailed, would prefer the sickle feathers narrow, and the short, stiff feathers well folded together, or whip-tailed, as we term it here; nor do I admire much curve or roundness of sickle feather. With regard to spurred hens, they were formerly much appreciated; but I am not aware that this is a necessary qualification, or, indeed, improves the appearance or courage of the Game fowl. To use the words of an old and well-known breeder, the colour of the Black Red should be as follows:—The feather of the true Black-breasted should be a clear, vivid dark red, without any shade of the black whatever; the red above and black beneath; the upper convex side of the wing equally red and black, even the feathers surrounding the posterior; the whole of the tail feathers black, the tip of the wing also; with black beak and black legs. The brood hen should be the dark Partridge hen, bright red hackle above and black beneath; clean brick-breasted, and such to the posterior; black beak and black legs. The true Black-breasted Birchen Duckwing, he states, should have yellow legs and beak, and have been originally bred from the Black-breasted Red, the Yellow Birchen, and the Grey Duckwing hens.

Thirty years or more ago my brother obtained some Duckwing Game fowls from the Earl of Merborough. The cocks

were rich in colour, the hackle and saddle being of a very rich straw-colour, with clean black breasts and tails, yellow legs and beaks. The hens had nearly white hackles, wheat-coloured backs and shoulders, and light fawn breasts, and the produce was always true to colour and of well-known courage.

In regard to the superiority of Brown Reds over Black Reds, perhaps "NEWMARKET" is right. Brown Reds for some time back have been bred with more care, and have likewise been more popular; but I think the Black Reds are fast gaining ground, as some wonderfully fine birds have been exhibited lately. I keep both kinds, and they are selections from the most noted breeds, and I must say that I have more deficient Brown Reds than Black Reds, such as crooked breasts, weak joints, and loose drooping wings, nor indeed do they feather so fast and well. Several breeders are too fond of leggy birds. I noticed at Halifax and other shows some which could not bear their own weight—a fault greatly to be reprehended, more especially in Game fowls.

I am no advocate for large birds, but think that for exhibition purposes a cockerel should never be less than from 5 lbs. to 5½ lbs., and when a cock should not exceed 6 lbs. It is a rare occurrence to see a really good Duckwing at any of our shows. Breeders have confined their efforts more to Reds, and why this should be so I cannot say. They are truly beautiful when bred with care. I sincerely wish the committees of some of our shows would offer a special prize for Duckwings alone. This might induce breeders to take more interest and care in the breeding of this much-discarded specimen.

I have often wondered how persistently some exhibitors will repeatedly show the same fowls, knowing too well the injurious effects which such a proceeding will have upon the constitution of the birds, as well as how fatal it will be to their chance of winning. I noticed several this season that were completely overtaxed, drooping, and spiritless, and most likely these would be used as breeding stock. Can the offspring of such birds be free from taint or inherent disease? If all do not go well with his birds, let the owner consider every part of his treatment. Are his birds well housed? Are their pens dry and sweet? Have they had sufficient green food? Have they suffered by excitement? or have they been exhibited too often? This concerns those who are anxious to win. A bird in health will exhibit a proud, defiant bearing, a brilliant eye, firm flesh, and a powerful contraction of his wings and legs when handled. By closely watching nature's processes you will soon perceive where art can assist nature, and by attending to this you will not suffer your bird's constitution to fail by imprudences and neglect. The corn given should be the best and of easy digestion. The walks you obtain should be well sheltered, plenty of pure water should be afforded, and the higher and more choice your breed the more care the birds require.

My birds have an unlimited run of grass well sheltered with trees, good clean water, a clean, roomy, well-ventilated roosting-house. I feed them twice a-day, and sometimes three times. Their food consists of wheat and barley, the best I can buy. I also give oat cake steeped in ale, milk, or chamber lye; to this I add wheaten bread and meal, and a few potatoes occasionally, mixed to a nice dry consistency. For a slight indigestion I give coarse sugar and fresh butter formed into large pellets.

The following is very beneficial when birds suffer from purging or weakness. Boil a little sago in water, sweeten it with lump sugar, and add a glass of good old port wine. Mix a little of this warm with a little wheaten bread, and give it to the bird.—YORKSHIRE.

PRODUCE OF EGGS.

One of your London correspondents, at page 377 of your Number of the 13th inst., gives an account of the number of eggs laid by six hens in the year (I presume he means 1885), and you invite your readers, without confining it to London, to furnish you with similar tables.

I live in a tolerably large town in the country. My garden, a very small one, is forbidden ground for poultry, and I have, therefore, put up for them a small house 12 feet long, 6 feet wide, and about 7 feet high, half covered with zinc wire, the other half boarded, about 4 feet of it close, so as to make a place for their nests, roosting, &c. I have moveable frames covered with linen and painted, to put on the open wire top in case of rain or snow; and if necessary in midwinter, or otherwise, I cover the exposed sides with cloth, as necessity requires. I merely keep my fowls for their eggs, and raise no chickens.

In December last I bought one cock and three pullets of the Silver-spangled Hamburgs, and three pullets of the Gold-pencilled Hamburgs. A friend gave me two additional pullets of the former kind, making eight hens. They began to lay on the 2nd of February last, and the following table shows the produce from these eightfifths from that date to the 14th inst.:

February	78	Brought forward	674
March	126	July	148
April	170	August	136
May	159	September	92
June	142	October	85
		November to 14th	16
Carried forward	674		1021

—S. G. J.

CHARACTERISTICS OF THE PRINCIPAL SORTS OF GAME FOWLS.

THE favourite colours of sportsmen have always been as follow, all white-skinned birds:—1, Brown-breasted Reds, dark eyes, dark legs. 2, Grey-breasted Dark Greys, black eyes, black legs. 3, Red Cheshire Piles, bright red eyes, white legs. 4, Black-breasted Reds, dark red eyes, white legs. 5, Red-breasted Ginger Reds, dark red eyes, white legs. 6, Dark Black-breasted Reds, dark red eyes, dark legs. 7, Red Duns, dark red eyes, white legs.

THE BROWN RED OR RED BROWN-BREASTED RED is the standard Game fowl of British sportsmen, having been more fought and having won more battles and mains than any other colour. Brown Reds appear to have been first called the Shropshire Reds, from having been first much noticed in that county, and some assert that they were brought into that county from Wales.

Brown Reds have been principally matched against the Cheshire Piles, the Shropshire Reds and Cheshire Piles having been at one time the two most celebrated sorts for fighting. Brown Reds being a stronger and harder bird than the Piles, though less quick and fiery, generally beat them, though the Piles were considered a good match for them. The only bird that has generally beaten the Brown Reds is the Dark Grey, a still stronger and harder bird than the Brown Red, the very best of the Brown Reds being only just equal to the average Dark Greys. The throstle-breasted Brown Reds are not so good a bird as the Red Brown-breasted, which are the true and pure-bred Brown Reds.

The best Brown Reds are now found in south and mid Lancashire, Staffordshire, and West Yorkshire, though Shropshire may have been their original county, or perhaps Wales. They are plentiful in all manufacturing districts, and in what is called the Black Country, and are found in and near all the large towns.

Brown Reds are distinguished by their large, bold, dark eyes—a very full eye—by their long and strong beaks, and by their "spurred" hens. Brown Reds are an original, wild, coloured variety, and have been found wild in India of the same colour, but smaller in size. They are the parent stock of all the sorts that hatch the dark-coloured young chickens.

DARK GREYS OR GREY-BREASTED DARK GREYS, which are the best Dark Greys, were originally bred from the hardest and strongest of the Brown Reds, throwing first the Grey hen, and subsequently the Grey cocks. The Dark Greys are the hardest and strongest of all the Game fowls, and have been least beaten of any sort, beating all colours in general. They are not very common, but are found in and near all the large towns, though not plentifully. They have been most fought next to the Brown Reds and the Cheshire Piles, and are superior to both, though, perhaps, a trifle less quick than either. Dark Greys are also celebrated for their large, full, bold, black eyes, long and strong beaks, very hard breasts, and for their spurred hens. Brown Reds are the next hardest-breasted sort. These two sorts are the gamest of all Game fowls, and stand cutting or dubbing the best.

Dark Greys stand steel the best of all the sorts, and Brown Reds the next best. The former will also maintain the longest battle of any, and Brown Reds the next longest. Dark Greys when black-breasted with a light silver feather are called the Dark Silvers, but these are not quite so game as the true Dark Greys. Dark Greys are sometimes called the Gipsy Greys, from their dark combs and dark faces, their dark hens and dark chickens, and their "cutting-out" so dark. The Dark or Gipsy purple-combed hens always breed the best Game cocks,

and these always cut or dub best. Brown Reds are often called the Gipsy Reds and Dark Reds for similar reasons.

RED CHESTNUT BLOOD PILES.—These birds have been most fought next to the Brown Reds, and are the quickest, fieriest, and most active of all the Game fowls. This Pile has the bright red eye and white leg, and should be of a bright red colour, the reddest birds being the best. They were celebrated for sharp fighting and activity, and are very quarrelsome.—**NEWMARKET.**

(To be continued.)

PAISLEY POULTRY CLUB EXHIBITION.

THE first Poultry Club Show took place on the 17th inst., in the new Drill Hall, which is well lighted, spacious, and in every way adapted for a poultry show. The Show was confined to birds hatched in 1886, and nearly two hundred pens competed. Judging from the number of visitors, the public support was fully insured.

The competition for *Spanish* was unsurpassable, so far as quality is concerned, in a chicken show. The cock in the second-prize pen was perfection, and consequently won the medal. We believe this bird was bred by Mr. Crawford, of Beith, from his own stock, which is undoubtedly the best in Scotland. *Game* fowls were well represented. The *Grey Dorkings* were in remarkably good condition; also the *Hamburghs*. The *Brahma Pootra*, *Buff Cochins*, and the *White* were also of great merit. It is rarely that so good a class of *Polands* is found at any show. The Golden-crested were the victors. Of *Game Bantams*, any kind, there were twelve entries, and there was much excitement among local breeders when it was known that some of the crack breeders from England were competing in this class; but they had to succumb to the beautiful pen of *Black Reds* exhibited by Mr. Sharp, of Johnstone. The cock was a model, although the hen was not quite a match for him. *Blacks* and *Whites* were also excellent.

The *Ducks* were good, more especially the *Variety* class, in which many of the rarest and most beautiful-plumaged birds were well shown.

SPANISH.—First, A. Yevill, Airdrie. Second, J. Hamilton, Paisley. Third, J. Ferguson, Paisley.

DORKINGS (Coloured).—First, A. Paterson, Airdrie. Second, J. Hamilton. Third, H. Heya, Barrhead.

COCHIN-CHINA (Any colour).—First, J. Stuart, Helensburgh. Second, R. Brock, Campsie. Third, J. Stuart.

BRADSHAW POOTRA (Any colour).—First and Second, A. Campbell, Blythwood. Third, Major Smith, Johnstone.

OLD SCOTCH BREED.—First, S. Young, Nielston. Second, W. Poden, Hamilton. Third, A. Grant, Kilbarchan.

HAMBURGH (Golden-spangled).—First, J. McAdam, Busby. Second, J. R. Rennards. Third, A. Jardon, Irvine.

HAMBURGH (Golden-pencilled).—First, J. Smith, Stewarton. Second, J. Mitchell, Paisley. Third, D. Black, Paisley.

HAMBURGH (Silver-spangled).—First, J. Stuart, South Arthurlie. Second, A. Glen. Third, J. McAdam.

HAMBURGH (Silver-pencilled).—First, J. Hamilton. Second, W. Park, Parkhead. Third, A. Glendinning, Strathlane.

GAME (Black-breasted and other Reds).—First and Third, J. H. McNab, South Arthurlie. Second, J. C. Neilson, Airdrie.

GAME (Duckwing).—First and Third, G. McIndoe, Neilston. Second, J. Arthur, Barrhead.

POLANDS (Any colour).—First, D. Barclay, Kilbarchan. Second, R. McNab, Cardonald. Third, J. Hamilton.

ANY OTHER BREED.—First, W. R. Menzies, Crossmyloof. Second, R. Abercrombie, Paisley. Third, J. Boyd, Paisley.

GAME BANTAMS.—First, J. Sharp, Johnstone. Second and Third, W. R. Menzies.

BANTAMS (Black).—First, J. C. Neilson. Second, W. R. Menzies. Third, J. Boyd.

BANTAMS (Any other kind).—First, W. Morris, Paisley. Second, D. Morris, Paisley. Third, J. King, Paisley.

BEST PEN BREED BY A MEMBER OF THE CLUB.—Silver Medal, J. Ferguson. Second, J. McInnes, Paisley.

BEST SPANISH COCKEREL.—Silver Medal, J. Hamilton.

BEST DORKING COCKEREL.—Silver Medal, A. Patterson.

BEST COCHIN-CHINA COCKEREL.—Silver Medal, J. Stuart.

BEST OLD SCOTCH BREED COCKEREL.—Silver Medal, A. Grant.

BEST HAMBURGH COCKEREL.—Silver Medal, J. Pollock, Busby.

BEST GAME COCKEREL.—Silver Medal, J. H. McNab.

BEST GAME BANTAM COCKEREL.—Silver Medal, J. Sharp.

DUCKS (Aylesbury).—First, J. Dryburgh, Arkleston. Second, J. Henderson, Motherwell. Third, A. Pollock, Riccarton, Paisley.

DUCKS (Any other kind).—First, R. Brock. Second, T. M. G. Benton, Darnley House. Third, A. Grant.

The following gentlemen officiated as Judges:—Mr. E. C. Benton, Darnley House; Mr. W. Farquhar, Barrhead; Mr. Jas. Miller, Glasgow; Mr. Thos. Ritchie, Glasgow; Mr. J. Paton, Stewarton; and Mr. H. Todd, Paisley.

MANAGEMENT OF STEWARTON HIVES.

I HAVE one Stewarton hive with four boxes, and the two middle ones are both filled with comb and honey; the upper box or super is filled with comb and some honey, not much; the bottom box is filled with comb only. Would it be advisable to take one of the middle boxes, as the season is far advanced, or

leave it till the spring? The reason this was not done before is, the bees have recently been moved from a long distance—about forty miles, and were rather unsettled, but now they seem quite reconciled.—**EDWARD MEACHAM.**

[We should remove the super and nadir, leaving the two central or body boxes. After extracting the honey, all the empty combs should be left undisturbed, and the boxes carefully put away until spring.]

THE EGYPTIAN BEE.

UPON the 16th of June I removed the first comb from the Egyptian colony, and gave it, along with some other spare combs, to a whole swarm of English bees, minus the queen. Two royal cells were in due course constructed, but unfortunately on examining these on one occasion, I slightly injured the apex of one, if not of both, and the inmates never matured. I again supplied the bees with a sealed royal cell from another Egyptian nucleus formed on the 23rd of June, but after the lapse of the usual period no queen appeared, and the cell was demolished. I allowed matters to remain *in statu quo* for some time, when, on examination, I found eggs had been deposited in worker cells notwithstanding the absence of a queen; but as in course of time the convex coverings appeared on these, I at once conjectured the presence of what has been termed a "fertile worker," but which I chose rather to designate by the more appropriate term—an imperfect female. Contemporaneously with the hatching of these drones, which turned out to be pretty well marked Egyptians, appeared two royal cells contiguous to the male brood, and apparently containing drone larvae. These the bees in due course sealed, but contrary to Huber's statement they allowed them to remain beyond the three days after sealing, and until they were almost matured, when they were also demolished.

Here, then, was an opportunity afforded me which I longed to possess. I had sometimes before known drones produced in hives where there was no visible queen, but was never able to discover the ovipositing bee. I determined, therefore, to examine this colony with the utmost care. I drew up frame after frame, and minutely inspected every bee. I noticed one bee rather peculiar both in its appearance and movements. It looked an Egypto-Italian, though in reality it could not be so, as I had no young Egyptian queen as yet to breed such. On narrowly watching this bee for some minutes, I became convinced I had at last discovered the object of my search. Wherever it went, it was the object of attention, being frequently fed and fawned upon by the other bees. Timid, like a queen, it would evade inspection by hiding in every crevice, or huddling among the bees. Sometimes during my examinations, for I had no difficulty in recognising it, it would enter the cells as queens do, as if intending to oviposit, but I was never so fortunate as to detect it in the act. Its abdomen was very rotund, and tapered rapidly to a point, differing in this respect from the one described by the Genevese naturalist, and whose abdomen "seemed less, and more slender than that of workers." The insect presented no external characteristics of a queen, and on the whole differed little from the form of a worker unless minutely examined.

We know that the French naturalist Riem was the first to discover the existence of what are called "fertile workers." We are also aware of Huber's confirmation of this discovery, with the anatomical investigations of Mademoiselle Jurine, and the important experiments of Baron Von Berleph and the distinguished entomologist Leuckart, of Giessen, as detailed by Von Siebold, all with the same results. Still the subject is far from being exhausted, and I was very anxious that this bee should be anatomically examined, and its ovaries dissected by a competent party; and it occurred to me that Mr. F. Smith, of the British Museum, who, I believed, took a great interest in the mysteries of bee life, might kindly undertake to do this. Though personally unknown to that gentleman, I therefore took it upon me to ask of him this favour. To this request, however, made on the 20th of July, Mr. Smith has not favoured me with a reply, and in consequence of my delay in the hopes of hearing from him, the hive in the meantime dwindled away, and the ovipositing bee disappeared. This caused me some regret and disappointment, as such an opportunity is seldom offered.

What definite objects in nature are attained by parthenogenesis in the honey bee is yet an entire mystery. Granting its truth as established, it has occurred to me that the extra-

ordinary power thus possessed by the virgin female, whether in the form of a queen or a worker, of producing males, may in certain cases be the only means by which a colony may be restored from an abnormal to a normal condition; for is there any reason to suppose, let me ask, that the queen is incapable of being fecundated beyond a certain period of her existence?

On the 26th of June I dislodged the Egyptian queen and bees, and put them into a combed Huber hive, using the combs of the former for queen-rearing, but was much disappointed at the sparseness of my materials, there being but few ova and young larvae. The drones matured and maturing were legion.

On the 30th of June and 7th of July, I repeated the same operation, ultimately domiciling the colony in a full-brooded Huber of the current year with combs constructed by Italians, where it has been allowed to remain ever since, and from which every vestige of the Italian element has at the present time almost disappeared.

From these manipulations I succeeded in rearing twelve queens, seven of which were fertilised and became the heads of so many colonies. Two disappeared, and one of very small size I found encased and dying in a cluster of bees on the floor-board, a few days after her birth. Three others I reared towards the end of August from a small piece of comb. One of these disappeared, and the other two are still, to all appearance, unfertilised. A few days ago I introduced both successfully to very strong colonies of English bees deprived of their queens, and intend to keep them over the winter if possible.

The following are the periods of the maturing and ovipositing of the queens reared:—

No.	Formation of swarms.	Queens matured.	Oviposited, &c.
No. 1.	June 23rd	July 11th	Disappeared.
2.	" 26th	" 10th	About 18th July.
3.	" 26th	" 10th	About 18th July.
4.	" 26th	" 9th	Uncertain.
5.	" 30th	" 14th	Encased and killed.
6.	" 30th	" 13th	About 24th July.
7.	July 7th	" 19th	About 28th July.
8.	" 7th	" 17th	About 27th July.
9.	" 7th	" 20th	About 4th August.
10.	Aug. 27th	Sept. 10th	Unproductive.
11.	" 27th	" 9th	Unproductive.
12.	" 27th	" 10th	Disappeared.

The queen of No. 1 was reared in a unicomb with a sparse population, and it emerged from the cell after being eleven days sealed. The queen of No. 8 matured on the tenth day after the operation, the shortest period in my experience. On another occasion I had an Italian queen which matured on the eleventh day.—J. Lowe.

(To be continued.)

On the evening of the 6th of June the stock of Egyptian bees most kindly presented me by my friend Mr. Woodbury arrived safely. These bees comprised the entire tenants of one of his frame hives, and had been transferred by driving to a flat-topped straw hive for facility of transit. Although they had just experienced a coach journey of ten miles or so over rough roads, with the customary bustle at the inn door, and not over-careful porters, yet when delivered into my hands nothing could be quieter or more satisfactory than their condition. As it was late when I received them, I thought it better not to transfer them to their future tenement until the following day. I therefore placed them upon their stand, after removing the net which had so amply provided them with air, but effectually confined them during their journey, at first taking a peep into the hive, which revealed, to my exceeding delight and satisfaction, a cluster of the beautiful little fellows occupying fully two-thirds of the space. There were no manifestations of resentment upon the removal of the wrappers, not a bee having left the cluster: in fact, I was struck by their quiet behaviour under the circumstances; but the previous summary proceeding in expelling them from their own hive may, however, have subdued them for the time.

On the evening of the 7th a nine-frame box prepared with strips of impressed wax sheets of home manufacture was ready for the bees, and with great facility they were transferred to their new abode, settling in it so quietly and quickly that I was enabled soon to close up, cover, and lower down the hive, and place them upon their stand. I was surprised at the number and great beauty of the drones, their superiority

in the latter respect over the Italians being very manifest. They worked well through June, quickly filling their hive with comb and honey, increased in numbers until densely crowded, gave me also a few pounds of honey in a glass super, and now, in the middle of November, are far more populous than any black stocks in my possession. I am inclined, therefore, from this satisfactory state of affairs to think that their queen is a most prolific creature, and I look forward to and expect notable doings next summer from them.

'And how about their extreme irascibility? I must tell my tale, as well as those other fortunate possessors of *Apis fasciata*—but how different my experience! I have manipulated upon them as freely as upon any other hives; neither myself nor any of my friends have yet experienced any manifestations of their anger. This is so adverse to the accounts given by others, that some extenuating cause must be found to account for it. In the first place, I am singularly fortunate amongst my bees, my constant presence may have rendered them peaceable and tame, and coolness and quiet in my operations amongst them have their influence in subduing anger. Surely there must be something wrong when our friend Mr. Woodbury, so used as he is to the repeated examination of his hives, should have been so troubled by them. Just now, whilst jotting down these remarks, I have tried their temper by stepping into my garden and removing the crown board of their hive, passing my hands over the frames amidst a dense mass of bees covering the bars. I experienced no inconvenience from this operation. Whether it may be different by-and-by I do not know; but at present, and since I have been the possessor of this stock of Egyptians, I cannot endorse the character given them of extreme irascibility and impatience of manipulation.—GEORGE FOX, *Kingsbridge*.

APIARIAN VARIETIES.

THE following extracts are taken from an article written by the great German apiarian Dzierzon during the spring of the present year. For the convenience of English readers I have thought it better to alter the thermometrical readings from Réaumur's scale to that of Fahrenheit.—A DEVONSHIRE BEE-KEEPER.

EARLY BREEDING.—As we know that strong stocks of bees often begin breeding in January, we find that in former years, when a little mild weather has occurred during that month, a tolerably large quantity of brood has been deposited even in weak stocks, although it has generally been destroyed by severe weather in the beginning of February, owing to the bees being compelled to cluster together and betake themselves to the combs which contain honey, leaving the brood exposed to the cold. It was therefore to be expected that during the winter of 1865-6, which was for the most part exceedingly mild, egg-laying would have commenced earlier and have been more extensive than usual, but this has been by no means the case. During an examination of strong stocks well provided with pollen, which I undertook after the middle of February, I found either no brood at all, or else much less than existed three weeks earlier in former years, and in much weaker stocks. How, then, is this phenomenon to be explained? Many would, perhaps, believe that the bees, taught by instinct, foresaw a still greater degree of cold during a second winter; but if so, why did they not foresee the same in former years? Evidently something remains to be explained. Moisture, of which we are aware bees have great need in the preparation of food for their young, will, it is well known, promote breeding; whilst its absence, during even a higher temperature, will restrict and hinder it; but with a mild atmosphere, when the temperature outside and inside the hives differs but slightly, it is natural that little or no moisture should be condensed in their interior.* Then, also, during mild weather the bees remain much quieter, as they require to make no great exertion to supply the loss of heat; whilst the temperature in the centre of the hive may

* Owing, probably, to their distance from the sea, and the air being denuded of moisture during its passage over the vast sandy plains of the Continent, there appears no reason to doubt that the atmosphere of many parts of Germany is much drier than that of England. For this reason, and in order to supply the bees with water without compelling them to seek for it in the open air during cold weather, German apiarians endeavour to promote the condensation of a certain amount of moisture within the hive itself, thus reversing the practice of English bee-keepers, who generally regard the presence of internal moisture as an unmitigated evil, and one that is by all means to be avoided.—A DEVONSHIRE BEE-KEEPER.

even fall lower than usual without danger of the bees on the outside of the cluster becoming chilled, just as an oven in a mild atmosphere needs not so much fuel as during severe cold. The queen and nurses, therefore, which dwell in the centre of the cluster, derive from it a greater degree of warmth during cold than in mild weather, and may in this way be impelled to the deposit of eggs and to the nurture of brood.

It may be remarked, however, that it is only the hatching out of brood which can be beneficial to the bee-keeper. Thus, egg-laying is desired in order that the stocks by its means may not only be kept from retrograding, but may even make progress. If, however, breeding stops at this stage by reason of the stores of honey and pollen falling short before the temperature of the outer air permits of their being replenished, then are the disadvantages of early breeding found to be greater than its advantages.

ON THE DEGREE OF WARMTH NECESSARY FOR THE BEE.—The limits of temperature within which a single bee can exist have been far too widely extended. It cannot be denied that bees are capable of a short flight with the thermometer at 45°, or that they may, at any rate when heated, take wing and return quickly to the hive when it is even a few degrees colder; but the question is, At what temperature can they exist singly for an extended period outside the hive? And it is certain that they may become chilled at as high a temperature as 62°, whilst with the thermometer at 52° they gradually lose the use of their limbs until they can neither crawl nor eat. When, however, Herr Schönfeld extends the opposite limit to 184°, he evidently goes much beyond the truth. Such a more than semi-boiling heat permits very little animated nature to quit the shade, but least of all is the bee able to withstand it. Herr Schönfeld has evidently confounded the heat communicated to solid bodies with the temperature of the surrounding air. Never but once have I seen the thermometer stand so high as 184°, even when exposed to the full noontide heat, but even then it was certainly only the adjacent window-frame and the thermometer-bulb which had become so heated from long exposure to the sun in a confined situation, as I am satisfied that the temperature of the surrounding atmosphere did not exceed 100°. As heated air becomes rarefied, and therefore lighter, it ascends, its place being constantly supplied by that which is cooler. Hence the shimmering haze which overspreads the plains when exposed during a calm day to the glowing heat of a summer's sun. Thus does continual fluctuation produce a continual balance of the disturbed equilibrium; the bees themselves assisting, when exposed to the burning rays of the sun, by fanning with their wings and driving the heated air behind them, and in this way producing a cooler temperature. That bees do not drown readily is well known, but put them in water heated to 184° and observe the consequence. Herr Schönfeld may convince himself, by careful observation and experience, that the extremes fixed by him at 45° to 184° are much too wide, and should be reduced by nearly one-half—to the limits of 59° to 106°.—*Dziernow.*

(To be continued.)

DESTROYING DRONES.

THERE is no doubt that a multitude of drones is a useless encumbrance in any hive, and a great drawback to its prosperity. Setting aside, as exceptional those cases in which drone-breeding is encouraged, and the drones themselves carefully preserved with the view of promoting the true fecundation of Italian queens, we may, I think, unhesitatingly conclude that as a general rule a superabundance of the male sex among bees is merely an unprofitable incubus upon the resources of the commonwealth. The most economical mode of limiting the number of drones in a hive is to substitute workers for drone-comb, permitting but little of the latter to remain. In this way but few drones can be reared, and the food which would be expended on the brood is of course saved. This mode of limiting drone-production being only practicable in hives with moveable combs, a method of destroying adult drones may sometimes be useful, and I have therefore no doubt that it would be serviceable to many if "C. H. E." would make public the contrivance by which he has succeeded in catching drones without interfering with the workers. I may state that German bee-keepers attain the same object by attaching to each hive a square or globular chamber formed of wire, the meshes of which are too small to allow a drone to escape, although they permit the workers to pass through them. This is affixed

to a hollow-mouthpiece fitting into the entrance of the hive, and when taken off filled with drones is plunged in boiling water.—*A DEVONSHIRE BEE-KEEPER.*

OUR LETTER BOX.

INCUBATOR (W. H. M.).—We never before heard of Duncan's (W. T.).—Minnam's incubator can be seen at work at the Crystal Palace. It has been favourably noticed in different papers, and drawings have been given of it. The naphtha requires to be renewed every forty-eight hours. Thermometers are supplied with it. Gas cannot be used without the burners. With only ordinary attention success is certain. They will not be cheaper at present. It is about 42 inches long by 26 wide, and 40 high.

COCHIN-CHINA'S COMB ON ONE SIDE (Creese).—The lopping of a Cochin-China cockerel's comb is a sign either of bad constitution or bad breeding. It is an exceptional case. They are often crooked, but seldom lop over. Fasten it in an upright position with silver wire. Feed on peas, oats, and barley, all whole, and dry bread. You may give him milk to drink, but very little water. This is the treatment, but we doubt of success. We must add that a Cochin-China cock with a lopping comb is not worth saving. You must tell us the breed of the Rabbis you need.

PERCHES (Cymbeline).—A barred floor, the bars 2 feet apart, rather rounded, and not less than 5 inches in diameter, is best for Rabbits. Footraces and all others of the Cochin-China race. If perches are used they should be of the same size and not more than 3 feet from the ground. It is a good plan to have perches jointed together so as to form a frame, moveable for cleaning purposes, &c., as shown in the "Poultry-Keeper's Manual." For smaller breeds the perches should not be less than 8 inches in diameter; fowls merely require to hold, not to clasp their perch. There is no advantage in having perches far from the ground, and so having them is the cause of many injuries. If foxes are feared, close the loop-hole at night.

IPSWICH POULTRY SHOW.—From your report of this Show it appears that the judging of poultry commenced about 8 P.M. As an exhibitor of fowls, I should like to know whether it is fair, either for the judge or exhibitors, that prizes should be awarded so late in the day. It is impossible to judge birds of plumage, such as Game, Hamburgs, &c., in the dusk or by gaslight, which must have been the case at this Show; and when we consider that some of the birds would be sent off by the middle of the day on Monday, and not penned till Wednesday afternoon, it is not very likely they would show to the best advantage. Although the schedule was liberal, committees should recollect that the best birds are not likely to be sent to shows that are mismanaged.—*AN EXHIBITOR.*

CRUSHED OATS (A Subscriber).—Crushed oats are the best of all food for poultry. A little Indian corn may be given in severe weather, but as a principal food it is too fattening.

BOOKS (J. R. Rayton).—Of works on bees No. 2 certainly. The other book you name is no authority on poultry.

PICKLING ONIONS (L. E. Novice).—To prevent the acrid fumes affecting the eyes of the person peeling onions for pickling, let the onions be kept in boiling water for a few minutes before peeling them.

COWS REMAINING A LONG TIME DRY (H. M.).—We fear the case you mention arises from indifferent feeding rather than from any inherent fault in the situation. Cows do not always have calves every twelve months, and supposing one to have gone twenty or twenty-four months between having calves, to be three months dry previous to calving is not unusual, especially in winter, when the food to encourage milk is less plentiful than at other times. Cows in milk will yield a greater quantity by having bran mash, brewer's grain, or similar soft moist food, but the milk will be poorer in quality. Oats, on the contrary, improve the quality, but they are expensive. Avoid turnips, as they communicate a taste to the milk, and cabbage still more so. Calves are less offensive, and mangold wurzel after February does no harm, but the sweetest milk is obtained from cows not overfed, although, of course, the quantity is small. We hope to return to this subject at an early opportunity.

COARSE HAY BY THE SEASIDE (Idem).—There can be no question that good well-made hay from upland meadows of the interior is better than the coarse benty hay of the salt marshes, or land which not many years ago was such; at the same time this hay has its value, and it is very likely that such hay is more suitable for the cattle of the neighbourhood than that brought from a distance. Generally speaking, the opinion of persons on the spot ought to be respected, even when they are ignorant of the reasons for giving such an opinion. We fear you have not much chance of turning a salt marsh into an upland meadow; but if it can be laid dry, a good manuring and sowing a better class of Grass seeds over it might improve it, but the Grasses common to the coast will to a great extent prevail; still when good they are by many said to possess higher fattening powers than the inland ones. Cattle brought from a distance seldom do well on such pasture, or, if they do, some disease often sets in. Seaside cattle, like sea-faring people, are distinct communities, and it is seldom an extreme change is beneficial.

POULTRY MARKET.—NOVEMBER 26.

A MODERATE supply, and a bad trade. Game plentiful, and wild fowl coming in, principally from Holland. We have had many winter birds in the market during the past week. If prognostications are worth anything, there are indications of the return of Snipes to England. The sportsman and gourmet will be glad to see the verification of the signs.

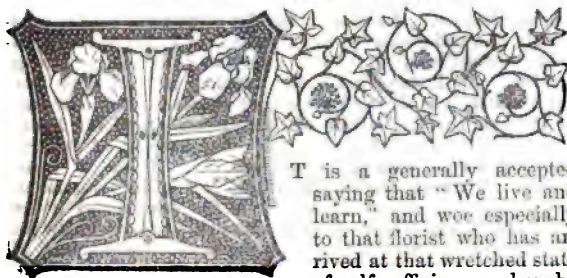
	s.	d.	s.	d.		s.	d.	s.	d.
Large Fowls.....	3	6	3	0	Pheasants.....	2	8	2	6
Smaller do.....	3	0	2	6	Partridges.....	1	6	1	9
Chickens.....	1	6	1	9	Grouse.....	1	9	2	0
Geese.....	6	6	0	0	Hares.....	2	6	2	9
Ducks.....	1	9	2	0	Rabbits.....	1	4	1	5
Pigeons.....	0	8	0	9	Wild do.....	0	8	0	9

WEEKLY CALENDAR.

Day of Month.	Day of Week.	DECEMBER 4-10, 1886.	Average Temperature near London.			Rain in last 30 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.			
4	Tu	Acacia juniperina.	47.7	36.1	41.9	17	50	af 7	51	af 8	49	af 4	49	af 2	27	9 38	388
5	W	Acacia taxifolia.	46.8	34.7	41.7	38	51	7	50	8	48	5	20	8	28	9 12	389
6	Th	Camellias.	47.9	38.3	42.1	19	52	7	50	8	42	6	54	8	29	8 46	390
7	F	Chrysanthemums.	48.4	36.8	42.8	19	54	7	50	8	37	7	38	4	●	8 20	391
8	S	Correa speciosa.	48.9	34.0	40.4	18	55	7	49	8	38	8	30	5	1	7 54	392
9	SUN	2 SUNDAY IN ADVENT.	46.8	35.4	41.3	16	56	7	49	8	14	9	12	6	2	7 27	393
10	M	Correa pulchella.	46.8	32.9	39.9	24	57	7	49	8	54	9	10	7	2	7 0	394

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 47.9°; and its night temperature 35.1°. The greatest heat was 61°, on the 4th, 1867; and the lowest cold 14°, on the 5th, 1844. The greatest fall of rain was 1.02 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

THE GLADIOLUS IN 1866.



It is a generally accepted saying that "We live and learn," and was especially to that florist who has arrived at that wretched state of self-sufficiency, when he

thinks he has no more knowledge to acquire. He will be surely left behind in the onward march of floricultural and horticultural skill. On no flower has, I venture to say, this increased knowledge told more than on that beautiful autumnal gem, the Gladiolus.

When, a few years ago, the Gladiolus came into cultivation, it was considered, and that by thoughtful men who knew what they were about, that it required to be grown in very poor soil, and if the soil was not poor enough it was to be made so. Now the soil can hardly, it is said, be too rich; and my friend Mr. J. F. Lombard, of Dublin, in a letter to a contemporary, has shown how he drives on his Gladiolus by a system of the most liberal treatment. Again: I remember when it was advised always to pick out the largest and strongest bulbs for planting; now we hear that moderate-sized bulbs are the best. This I can confirm. When I received the new ones last autumn from M. Eugène Verdier I was somewhat disappointed at the size of the bulbs, as they were none of them bigger than a walnut. I said nothing, however, and when the blooming time came they produced, I am glad to say, splendid spikes of bloom; and more than this, there was a variety of Mr. Standish's raising, which I considered one of his very best, but the bulb of which I had lost. There were, however, five or six little bulblings, not one of them larger than a Marrowfat Pea. These I put into a pot; and when they were about 6 inches high—apparently but a single blade of grass—I turned them out into the ground. What was my astonishment to find them all producing a fine spike of bloom! and when I took them up they, or rather the new bulbs, were as big as Walnuts—ready for a finer bloom, I hope, next year. In these two points, then, our opinions and our practice have been modified, and probably there are other points on which we may have yet something more to learn.

In the article to which I have alluded the writer speaks of bulbs planted in poor soil producing more increase than those in rich soil. It may be so, but it is not my experience; but there is an immense difference in varieties as to their power of producing increase, some rarely giving more than three or four bulbs, others literally teeming with progeny. Thus, for instance, of Mons. Lebrun d'Albanne I planted two bulbs, and I am within bounds when I say there were four hundred bulbs of various sizes, from that of a hazel nut to a pin's head: not only were they clustered

underneath and around the corms, but over the sides, and in every possible place. Eleanor Norman, again, one of Mr. Standish's varieties, is a very prolific bearer; but of other kinds, both French and English, I have never been able to obtain more than three or four, though grown in the same bed as those already mentioned. I am more than ever convinced that the great requisite in having a good bloom is to have the bulbs well ripened. I do not think that they suffer from being taken up when the stalks are comparatively green, but I do think that they suffer from being left in the ground after they have ripened off.

With regard to the late or early blooming of varieties I hardly think that much dependance can be placed on any of them, as far as my own experience goes. Thus, Madame de Vetry has generally been with me an early bloomer; this season it was one of the latest I had: so that I do not think any rule can be laid down. My experience, then, has led me to these points:—

Bulbs.—Be sure that the bulbs which you save yourself, or those which you purchase, are thoroughly well dried, and in planting reject any that have black spots around and on the base of the bulb. They may be planted in a separate corner of the garden if you are anxious to save the variety, for such a bulb may produce a tiny offset that may be planted; but it is sure to make a blank in your best bed if you plant it there. Do not choose for planting the largest-sized bulbs, but those of a medium size; they will flower better, and give more satisfaction.

Soil.—Manure highly in the autumn; dig in plenty of old Cucumber-frame dung, and let it remain until planting time, unless there be much frost, when turning it up and sweetening it by exposure will be of great benefit.

Planting.—Let this be done according to the season. The end of February or beginning of March is a very good time. Even if the bulbs have speared a little do not be afraid to keep them out of the ground until you have a favourable opportunity. When planting, open the place where the bulb is to be, put in a little light soil, with a considerable quantity of silver sand, and plant the crown of the bulb about 3 inches below the surface. Let the space between the bulbs be about 1 foot each way. You will lose nothing by giving them plenty of room—it is more easy to go amongst them. Of course you may plant them more thickly if you are pressed for room.

After-cultivation.—Keep all clear of weeds. If the weather is dry for a long time give copious waterings—they are of great value. Top-dress if you think your soil is not good enough. The effect of shading has not been much tried; I am inclined to think, if judiciously managed, it would be of great advantage. Tie up the flower-stems by placing stakes and then weaving list in and out amongst them.

Propagation.—You will generally obtain, although not always, an increase of large bulbs, some breaking into two or three; but this cannot be expected from small bulbs, and, indeed, some large-sized ones never break, and only one large corm is again formed over the old one. Where there is an increase in the small fry, what is done with them must depend on the sorts and the desire to increase stock.

If it is a scarce or good variety, my plan is, immediately on taking the bulbs up, to separate the young bulbs, and at once plant them in small pots, using good light soil, and keep them in a cold pit during the winter. This gives them a great advantage, and insures, I think, their starting. If the kind is a common one, and yet increase is wished for, then keep the young bulbs, and sow them in drills in the spring like Onions; and if no increase is desired, simply cut them off and throw them away.

Varieties.—On this I hope to write more at length next week. In the meantime I would say, of new kinds Milton, Shakspeare, Eurydice, Meyerbeer, Fulton, Maréchal Vaillant, and Madame Furtado are excellent. Of those somewhat cheaper, James Veitch, De Candolle, James Carter, Mons. Lebrun d'Albanne, Prince of Wales, Stephenson, and Dr. Lindley may safely be recommended; and of cheaper kinds, Duc de Malakoff, Rembrandt, John Bull, Belle Gabrielle, Mac Mahon, Lenné, Le Poussin, Madame de Vetry, and Brenckleyensis are good. I hope, however, to give a detailed account of most of these in my next communication, and only hope I may induce some others to grow this charming autumnal flower.—D., Deal.

VINE BORDERS.

A few weeks ago I was about making a Vine border, and therefore felt some interest in an article headed "Vine Borders, and How to Make Them." I read it through carefully, and, I confess, felt thoroughly disheartened, for it seemed to me that no man of moderate means could grow Grapes if borders 3 to 5 feet deep must be made after the expensive directions given by Mr. Wills. On a second perusal I found that all his words referred to the future, "to be or not to be," according to circumstances. As far as I can foretell, I think he will reconsider some of his propositions and simplify them. I am induced to think so, from having read in a contemporary an account of some vineries at Bishop Stortford, one of which seemed to suit my case. I therefore made my way to the Great Eastern, otherwise to the garden of Mr. Miller at Bishop Stortford, where Mr. Ward, his gardener, kindly told me all I wished to learn. I have no wish to burden your columns with all I learnt, but I will endeavour to give an idea of the simplicity of the structure and of the culture followed.

The house I allude to is span-roofed, 200 feet long, 30 feet wide, and 15 feet high in the centre, 5 feet at the sides. The roof is fixed, all the rafters of the same size. Ventilation from below by sashes suspended, and opened by a crank; ventilation above by pieces of glass in slides to every fourth rafter, held in their places by iron weights.

I fear to weary your readers by a long description of this fine vinery. No description can convey an accurate picture; and so I shall merely try and tell how simple a matter it is to make a Vine border, and thus cheer those who, like myself, felt disheartened after reading pages 289 and 290.

The borders, or rather border—for it is one continuous border—occupies the whole 30 feet width inside of the house, and has no connection whatever with the outside; the foundations of the walls are solid brickwork, so that not a root can pass through; the soil being a sandy loam resting on gravel, no drainage was required, and the border was thus simply made. The turf was pared off the enclosure in which the vinery stands, and wheeled into the house. To this mass of turfy sandy loam (always take sandy loam), were added rich half-rotten stable-manure and one-inch bones, mixed with larger pieces, the "screenings" of ground bones, nearly in the following proportions:—To twenty loads of loam (of twenty bushels each), four loads of manure and one load of coarse broken bones were added. This compost was well mixed, and the border when completed and settled was about 30 inches deep; it now lies about 1 foot above the surface of the soil outside. It is intended, I believe, to give the border annual surface-dressings of a richer compost than it was made with, so as to encourage the roots to come to the surface. The surface of the border has not been stirred since it was made; so that from being much trodden it is quite solid.

The Vines growing in this border are as fine and robust as can be imagined; for in this, the second year of their growth, the canes made by a large number of Lady Downe's Vines average 2½ inches in circumference and from 16 to 18 feet in length. There is no doubt but that in soils not calcareous 4 inches of lime rubbish added to the above compost would be advantageous; it is not required at Bishop

Stortford, and so I have confined myself to giving the very simple mode in which the border has been formed. In soils not favoured by a substratum of gravel it would probably be necessary to place a layer, 9 inches thick, of broken bricks or stones, or drain-pipes, and on this to form the border; and I think, also, the border in such cases should be raised to the height of the boundary walls, and lie at least 2½ or 3 feet above the surface outside.

In all that I have said I have referred to the border in the span-roofed house, but I see no reason why the same principle should not be applied to lean-to houses. All that is required is to make the front and back walls of a height sufficient to allow of a border being made 3 feet deep the whole width of the house; and this in a house 14 or 16 feet wide would be amply sufficient for Vines for many, many years, and with annual surface-dressings, probably as long as a vinery would last.

This method of making Vine borders offers such a contrast to the complicated recommendations of Mr. Wills as to merit notice, for simplicity in all gardening operations should be a leading feature. It seems to me also to do away with the necessity or quasi-necessity, so expensive, of building the boundary front walls of vineries on arches to allow the roots to go outside. An inside Vine border requires no protection from the weather, it is dry and comparatively warm in winter, and in summer partakes largely of the temperature of the house. One objection seems to offer itself—the necessity of artificial watering, for, of course, no rain can ever fall on an inside border. On inquiring of Mr. Ward, Mr. Miller's intelligent gardener, I learnt that the border of the span-roofed house, 200 feet long and 30 feet wide, was thoroughly watered at the end of March of the present year, and the same once a month till the middle of August. No water has been given since, neither will any be given till next spring. This is not, therefore, a heavy objection to an inside border.

One feels surprise that none of our writers on Vine culture have recommended Vine borders to be entirely inside, after the mode practised by Mr. Miller. Mr. Thomson, even, the most acute of our Vine authors, seems to have omitted it. One feels regret that he has done so, for he could handle the subject well.

I saw many years since, in a market garden near London, some Vines planted in the hard clayey floor of a vinery with little or no preparation of the soil. They were remarkable for their vigour and productiveness. I have recently seen the experiment repeated, and am almost inclined to say, "The climate is the maker of the soil;" therefore the whole of a Vine border, whether for a lean-to or span-roofed house, should be inside, and not more than 3 feet deep, trusting rather to surface-dressings than to deep, dank, five-foot borders for the proper food of Vines.

There is one peculiarity in the planting of this vinery worthy of notice. On each side of the central path is a row of pyramidal Vines attached to upright rods, as they are seen in the gardens of the south of Europe. These Vines are from 8 to 4 feet apart, and form a most beautiful avenue 200 feet long. The Vines trained under the roof are planted on each side in the usual manner. The varieties in the late house are Lady Downe's and the Black Tokay, falsely named the Black Alicante, and now very properly called after Mr. Meredith to distinguish it from other sorts under the name of Alicante; but it must ultimately take its true name of Black Tokay, under which it has been known in England for some scores of years. In my opinion this late Grape is not at all equal in flavour to Lady Downe's, which closely rivals the Black Tokay in its keeping quality.—VIRIS.

STRAWBERRY CAPTAIN COOK—GROWING FOR PROFIT.

As some of your readers appear anxious to know which are the best and most profitable Strawberries for the market gardener, perhaps you will allow me space in your valuable Journal for the following account of Strawberry Captain Cook, as related by a market gardener in the north of Lancashire. He has grown this delicious fruit on rather an extensive scale for sale for a great number of years, and as he has tried almost every variety which has been sent out, I consider his opinion is worthy of notice. He says that he has never met with any variety that is so profitable as Captain Cook, as it produces a greater weight of large, marketable fruit than any sort which has come under his notice, and always commands a ready sale at the best prices.

Judging from the above statement, it is evident that Captain Cook Strawberry has answered remarkably well for the market gardener in that part, yet I cannot affirm that it will do equally well in every place in which it may be tried, for it has been proved beyond doubt, that varieties which will do well in some situations will not succeed at all in others, hence disappointments frequently occur. I have no doubt, however, that some of your readers in various parts of England have grown this variety, and perhaps they will be good enough to give us the benefit of their experience with it. I presume it was raised by the late Mr. Nicholson, as he sent out a seedling under that name some years ago.

With regard to planting Strawberries for profit, I am inclined to think after having tried various ways, that the most profitable and most simple method is to plant on land that has been prepared in the manner so often recommended in this Journal (in July, if possible), in rows 2 feet apart, and 1 foot from plant to plant in the row, protecting the roots during winter by a good top-dressing of half-rotten manure, put on in November. By this method I have never failed to secure a heavy crop of fruit in the following summer. For the second year, I find that it is better to let some of the weaker-growing kinds run two rows into one—that is, instead of cutting between every row in the autumn, to leave every alternate row uncut; thus nice little narrow beds are formed. I may add, that I never dig between the rows, which is the practice of some, for I consider doing so labour in vain.—ECLA.

VIOLA CORNUTA.

I HAVE no wish to continue the Viola controversy beyond what I consider will interest your readers, or throw a little light on this mysterious plant, as Mr. Wills and myself have no hostile feeling in the matter. As stated in a previous communication, should the two Violas differ, we have two really useful plants instead of one, and should they not differ, no great harm will be done by stating our own individual opinions; but if the former prove to be the case, the question to be decided will be, Which is the original and true Viola cornuta? Here doctors may differ. My reason in again writing of this Viola is to refer to a few comments offered by Mr. Wills in your Journal, at page 584. Mr. Wills states that my plants differ in habit from his, being more procumbent. The plants sent to Huntroyde were taken up from the edgings that surrounded the Dahlia ground, and were cut down closely in the end of August, when more care had to be bestowed on the Dahlias in preparing them for exhibition. This may in some measure account for the difference of habit. With respect to the colour of the foliage, I have some plants with darker foliage grown in other portions of the grounds, in more exposed situations. Mind, I do not state that the plants grown by Mr. Wills and myself are identical; time alone will prove this, for, as Mr. Wills observes, some of the flowers we have forwarded to each other are so much alike that no difference could be detected. Mr. Wills next states that Mr. Tillery has a blue variety nearly as bright as the blue Pansy used at Cliveden. Now, the stock of this Viola was sent from Worksop Manor to Welbeck, I believe, and from Osberton to the Manor. Indeed, we have but the one variety in this part. Now, if the colours vary, and the soil has no influence in the change of colour, is it the atmosphere that does it? Certainly they do vary.

I have never raised any plants from seed, but we have it on the authority of Mr. Miller, that seedlings come perfectly true, and of the numbers which he raised last year all were identical and true to colour.

Next, Mr. Wills states that Mr. Tyerman after his visit to Huntroyde, was of opinion that they had different varieties. Such I believe was Mr. Tyerman's opinion at one time, for in a letter which I had from that gentleman he stated as much; but after visiting Huntroyde, taking home with him some flowers, and comparing them with his own, he could not detect any difference. However, as Mr. Wills has promised to send me some of his stock, I will adopt his suggestion, and grow his plants under the name of Mauve Queen, and the other under that of Purple Queen, side by side, until their merits be satisfactorily proved. Until then, I trust the Viola question will not be revived, as no definite conclusion can be arrived at before the next flowering season.—EDWARD BENNETT, Osberton Hall, Worksop.

[In answer to a correspondent who inquires if we have seen the botanist's Viola cornuta growing, we are able to reply in the affirmative. Many years since we saw it blooming pro-

fusely in the garden at Wolvesey Palace, Winchester, and Mr. Weaver, gardener to the Warden of Winchester College, drew our attention to it. We have no doubt it is there now.—EDS.]

I HAVE here a dry north border 4 feet wide, sixteen yards of which are planted with Viola cornuta. The plant commences blooming in May, and continues in bloom till September. I prize it much, and think it justly deserves all that I have heard said of it. Your correspondents must not, however, depend on seedlings, for here, as in most other cases, the flowers of the offspring from seed vary much in size and colour, and the tendency is to deteriorate rather than to improve. I saw last summer in the garden of W. J. Blake, Esq., at Danesbury, near Welwyn, a batch of seedlings in bloom, the flowers of which varied in size and tint, and the habit was not in every case precisely similar. The best of these seedlings were not superior, if equal, to the variety I grow and increase annually by division and cuttings.—WILLIAM PAUL, Waltham Cross, N.

VINE-BORDERS—FORCING GRAPES FOR MARKET.

As my tabular arrangement for the formation of the Vine-borders at Huntroyde Park is incorrect, will Mr. Wills kindly oblige by giving us the exact proportions of the different materials he intends using to make up the 2800 square yards of compost necessary for the completion of his border? Any additional information as to cost of material, size and price of flags, &c., that he may be able to give, would I am sure, be very acceptable to many readers of the Journal, and particularly so to me, for I should be very willing to double the cost of my Vine-borders if by so doing I could double the growth and produce of my Vines. I know very little about gardening, but I have seen many nooks and corners of the world not easily accessible to gardeners, and I know something of the climate of most places where the Vine succeeds best. What little knowledge I have acquired in this way I am now applying to the culture of the Vine on a large scale, intending to cut early and late Grapes by the ton. Before giving an account of my first year's experience in Vine-growing, I wish Mr. Wills to understand that I never before planted a Vine under glass, neither have I seen them planted nor witnessed their growth afterwards. It is, therefore, just possible that the readers of the Journal may be more amused than instructed by the statement I am about to make.

I may as well state at once, that my garden was formerly a part of the great common that extended almost without a break from Hounslow to Staines. It was enclosed about forty years ago, and since that time has been used as arable land until within the last three years. The soil is a stiff loam 9 inches in depth, upon a clay subsoil. Before the houses were begun I had the foundations, stokeholes, and paths staked out, and the soil taken out down to the clay. This soil was well mixed with about one-tenth part of stable manure. When the houses were finished, a concrete bottom was made inside and level with the ground outside. Upon this was placed the soil without a particle of drainage of any kind. The Vines were then planted without breaking the balls, and with no more care than would have been taken with ordinary bedding plants. They were well watered and syringed with spring water only, but had no fire heat. The following table will give a good idea of their summer's growth:—

No. of house.	When planted.	No. planted.	Growth in four months.	Average circumference at base of shoot.	Average circumference at 8 feet from base.	State of cane.
1	May 6th	17	16 feet	2½ inch	1½ inch	Perfectly ripe.
2	May 8th	89	12 "	2½ "	1½ "	Perfectly ripe.
3	May 10th	89	12 "	2½ "	1½ "	Perfectly ripe.

When their growth began to cease they were shortened to 10 feet, and after maturity to 8 feet, the length I intended them to remain for fruiting.

The canes in No. 2 and No. 3 were stopped at 12 feet to make room for two hundred young Black Hamburgh Vines for future planting. All the Vines planted in the three houses are Black Hamburghs. I have, however, in pots of all sizes,

from 3 to 14 inches in diameter, 210 Hamburgs, 145 Muscats, 50 Sweetwater, 40 Alicante, 40 Barbarossa, 6 Lady Downe's, and 1 Muscat Hamburg. The three-inch pots contain plants struck this spring, about the size of a tobacco-pipe. The 14-inch pots have some fine canes 1½ inch in circumference at 56 inches from the rim of the pot. Common garden soil and stable manure were used for potting, and cinders for drainage.

I have only to add, that the total cost of borders, including concrete, has been less than £90, and then I think I have said everything about my Vines, except that I am getting ready to start them into growth again, and hope to have nearly half a ton of ripe Grapes from them by the time they have been planted a year.

I hope Mr. Wills will pardon the error I made in supposing he intended to make his border with "chopped sods, lime rubbish, boiled bones, and charcoal, in layers of 9 inches or 1 foot in thickness, . . . well incorporated together." The mistake could not have occurred had the quantity of each ingredient been mentioned. However, I thankfully accept his explanation, and trust he has made no mistake when he says, "The quantity of bones I shall use will be about two pecks for mixing with each nine-inch layer for a border—say 10 feet wide and 30 long." Such a layer of earth would contain about 672 pecks. The bones would, therefore, be to the soil as 1 is to 836. Rather homoeopathic this; and I am sure Mr. Wills can prescribe a better Vine diet, as well as give us a fair estimate and plain record of everything connected with the extensive operations about to be carried out for the formation of the Vine-borders at Huntroyde Park.—H. S.

FLOWERING AND OTHER PLANTS IN A VINERY.

REFERRING to "Vines and Flowering Plants in the Same House," page 365, you will oblige me much by stating what modifications I need make in the list of flowering plants there given, and in their treatment, in a house of similar size, in which I purpose commencing to force early in February. I mean, of course, to keep the welfare of the fruit in view as the main object, and to have nothing in the house that would seriously injure the quality of the crop.

How far, also, could Strawberries and Potatoes in pots be grown without injury to the Vines, and could one or both be continued on the shelves under the Vines after the appearance of the foliage, by shifting the pots in turn to the shelves in front of the house close to the glass? If so, how frequently should they be shifted?—W. M. G.

[By commencing to force early in February, you will not be able to cultivate till a late period an equal quantity of flowering plants; but if you have the Grapes off early, and the wood be ripe early, you may fill the house at an earlier period in the autumn with the plants named, and may do much with the cold frames which you mention in sheltering your hardier flowering plants. All the plants named at page 365 may be kept in the house so long as the temperature of that house averages 45° at night; but when the average heat reaches from 50° to 55°, then florists' Pelargoniums, Cinerarias, Primulas, Calceolarias, &c., should be moved to colder quarters, also all kinds of established bedding plants. Supposing that such plants have been in bloom in winter and early spring, after the house is fairly started for Vines, Camellias and Epacris which have bloomed, along with Oranges, may be kept in it to make their fresh wood, and Scarlet Pelargoniums in the open places. If floral ornament is wanted in the house in summer beneath the Vines, that should chiefly be supplied by fine-foliaged stove plants, as Gesneras and Begonias, and tender annuals, as Cockscombs, Feathered Cockscombs, and Egg Plants. After you commence forcing, however, when the roof has become pretty well shaded with foliage, we should deceive you if we led you to think that beneath that foliage of Vines you were to have stages of flowering plants, and then beneath them Potatoes and Strawberries. Such plants as we have mentioned, Camellias and Epacris, whilst making their wood, will sustain no injury from a little shade and an average temperature of 60°, if hardened off afterwards.

Your Strawberries and Potatoes in pots will succeed just in proportion to the light you can give them, and in the case of Potatoes by not subjecting them to too high a temperature. To make the most of your house in this respect, we would set the frames to work now, with a little mild heat beneath them. Into one we would place Potatoes in pots, a single set in a

small pot, three to be put into a large pot afterwards; or place two or three sets in a 12 or 14-inch pot at once. Supposing the heat of the frame to approach 50°, or a little more, the Potatoes would be advancing, and would do well if removed to the stage of your vinery when the heat there was averaging 50°, and by the time it reached 60° the Potatoes would be well advanced, and could be removed to the front of the house as the shade began to deepen, bearing in mind that the heat for the Potatoes should not exceed 60°. Thus by moving them you could have fair gatherings from the house; and if the heat was making the stalks weakly, then you could take them to the frames. Unless your house is very open in front, so as to secure air for the Potatoes as well as light, we would not advise you to have any succession of Potatoes, but to be satisfied with this one early crop.

We would proceed in the same way with Strawberries. If your frame will afford the Strawberry plants a temperature of about 5° higher than the vinery now, it will bring them on gradually, and when your house is all ready you may set them at 16 or 18 inches from the glass, in any part of the house where there is no shade, and where the plants will enjoy a fair circulation of air. Plants thus treated will generally be in bloom, and set their fruit before the Vines produce much shade, and the increase of heat given to the Vines will assist the swelling of the fruit of the Strawberry plants; but if fine flavour is desired, the fruit when swelling must have plenty of light. If this light can be afforded them there is no necessity for shifting the plants at all, and, therefore, we can offer no definite instructions as to the number of times the plants will require shifting from place to place. If your roof is at all thickly covered with Vine foliage, the Strawberries previously set will swell under the foliage, but be deficient in flavour; and successions of Strawberry plants will only do well if they have not set their fruit before being admitted, by affording them an open space either at the back or the front of the house. There, from air passing over them, they will set their bloom in a rather high temperature, but they will do this very imperfectly in shade. They will do all the better as successions when they are forwarded a little in frames beforehand. For instance, the check or change is too great when Strawberry plants are taken from the open air into a temperature of 65°, but if taken from a frame where they had a temperature of from 55° to 60° the change is little felt.

On the simple principle that all forcing of hardy fruits succeeds best when the forcing proceeds gradually from a low temperature to a high one, in all such cases as the vinery to which you refer, the first crop of Strawberries in the house will often be the best, because if the Strawberry plants are placed in the house before you commence forcing, the temperature will gradually be increased from 45° to 60°, and in very warm nights to a little more. Where people have vineries to come in in succession to each other, the crops of Strawberries can receive something like justice by merely taking a crop out of each house. Bear in mind, that just in proportion as you place Strawberries or Potatoes in a high temperature at once, will be not only the tendency to weakness in the plants, but the likelihood of their being attacked by insects, which may also find their way to your Vines. We speak thus unreservedly, because, though in Peach-houses and vineries, by due preparation of the plants and affording light spaces to successions, almost as much fruit has been gathered as would pay for the expense of forcing the house, we would wish it to be clearly understood that without that preparation and much shifting little good will be done except with the first crop, and even with that, flavour will much depend on the light given.

Hence, though Mr. Fish has never had a house which he could devote to Strawberries, but had to do all that was possible by shifting, at a great amount of labour, just as you will have to do, he is fully convinced that the cheapest plan on the whole would be to have a Strawberry-house in several divisions, such as was described as existing at Enville; then each division could have the very treatment and temperature required, and could be filled several times during the season, and there would be no trouble with shade or too much heat. When Strawberries bear in the open air the house could be devoted to another purpose. Meanwhile you may do much in your vinery, and without injuring the Vines, if you bear in mind that, at least before the bloom sets, the plants must have light and air, and be seldom in a temperature of more than 60° at night—if not higher than 55° all the better for them.

You may, as you propose, forward the Potatoes under the shade of Vines, to go out under the protection of cold frames;

but even in that case we could not advise the stems of the Nectarines to be covered and covered than 8 inches in length, for if much longer the additional length will be under the cotyledons, and the stems will be under the cotyledons. As the above length of stem might be done by having the earth in the cold frame well warmed by the sun before planting.]

PEACHES—THEIR TIMES OF RIPENING, AND CULTURE IN POTS.

In your Journal of November 30th is an article on "The Peach Season of 1866," and the dates are given of the ripening of some of the different sorts of Peaches and Nectarines. In Lancashire the Early Keck ripened on the 20th of July; in the orchard-house here (Bosley), a span-roofed one of large size, 54 by 24 feet, and lofty, it did not ripen until the 9th of August. The fruit was of large size for that sort, being 8½ inches in circumference; it was grown on trees planted in 11-inch pots. The next sort to ripen was Hunt's Tawny Nectarine on the 26th; on the same day I picked one fruit of the White Nectarine. On the 21st I gathered Early Grosse Mignonne, Acton Scott, Royal George, and Early Victoria Peaches; on the 25th Murray Nectarine, and Red Magdalen Peach; on the 27th Scarlet Nectarine; on the 29th Elzrue and Rivers's Orange Nectarines; and on the 30th Violette Hâtive Nectarine, and Grosse Mignonne Peach.

On September 1st Claremont (Elzrue) Nectarine was ripe; on the 4th, Fine Apple Nectarine; and on the 12th, Cricklet Nectarine, a very good full-sized fruit of excellent flavour. The Pimston Orange Nectarine came in on the same day, and in the following week the Barrington and Bellegarde Peaches in the order in which they are named, succeeded in the end of the month by the Victoria Nectarine. The Walburton Admirable did not carry any fruit this season; it is a shy bearer here; two trees of it had plenty of blossom, but it did not set.

The next was the Salway Peach, which ripened on the 1st of November. The fruit were the admiration of everybody while they hung on the trees, but, alas! it was all outside show; they were of a beautiful golden colour, and measured 10 inches in circumference, but they were woolly and tasteless, and no one would eat them. However, I hope it was only a result of this sunless season.

All the trees here are grown in pots, and we thus obtain fruit of the largest size and of good flavour, especially in the case of the Nectarines. Some of the Royal George and Red Magdalen Peaches were 10½ inches in circumference. Failures in growing Peach and Nectarine trees in pots arise from various causes. With those who top-dress in the autumn one cause of failure is over-dryness at the roots. After surface-dressing the soil, and giving it a good watering, the moisture does not appear to dry up soon, because there are no roots to extract it from the surface soil, but the roots are acting upon the old soil in the pot and sucking it dry. I examined in the spring of the present year several trees that did not seem to start so freely as the others, and in each case the old soil in the pot was as dry as possible, while the fresh surface-dressing was quite wet.

Another cause is over-potting; I have never had good fruit from trees which had a large shift—for instance, if a tree is in an 11-inch pot, it ought not to have a larger shift than into a 13-inch pot; 2 inches wider at each shift is enough, ramming the soil as firmly as possible round the ball, which ought not to be broken except to take out the roots and scratch away the loose soil from the surface.

Then there are two enemies of the Peach tree about which we hear much—namely, the black aphid and red spider. They are easily enough destroyed if they are taken when they first make their appearance; the aphid I treat with tobacco smoke, and the red spider with rain water. On the first appearance of aphid bring out the fumigating apparatus, and use good tobacco; it is the cheapest in the end. Fumigate three times, with an interval of four days between each fumigation, and you will most likely be done with the black aphid for that season. Red spider is the most insidious enemy, however, of the Peach tree, and quite as persevering as the aphid, but it is never allowed to gain ground. As soon as the fruit is fairly set, I commence syringing once a day, for the first three weeks in the morning about eight o'clock, but earlier as the days lengthen; afterwards the trees are syringed twice a day, and in very hot weather three times. I find that without water in abundance at the roots and on the leaves there will be no

fruit. I discontinue syringing before the first fruit is ripe, and I have no trouble with red spider.

I am not an advocate for smothering the trees with mixtures of clay, sulphur, soft soap, &c., as I find they do just as well, and are as free from insect pests without it, and I have seen trees very much injured by such mixtures.—J. DOUGLAS.

I FEAR that the lists suggested by Mr. Bréhaut, page 389, would be of little use, unless the structure and aspect of the houses were the same. A lean-to against a south brick wall, and a span-roof running north and south, would produce very different results. Then, again, the warmth of a house depends greatly on the amount of ventilation given by the gardener. These remarks are illustrated by the fact that Mr. Bréhaut's friend in Lancashire ripened Early York this year on the 20th of July. In one of my houses, though assisted by a little warmth in the spring, the same variety did not ripen till the 25th, yet I have the advantage of 2° of latitude to the south of Lancashire.—G. S.

HEATING, VENTILATING, AND SHADING.

WHY do we keep our hothouses and forcing-pits at an almost uniform temperature regardless of weather? Is fire heat considered as good as heat from the sun for the growth of plants? One might be led to think so from the manner in which the former is used and the latter wasted. If on a frosty night the temperature of a house falls below the favourite figure the fire is roused up, although there may be already 50° or 60° of artificial heat; and again on a bright day in early spring, when it rises slightly, the top of the house is thrown open, and a cold dry air admitted to replace a warm moist one. As a natural consequence with tender plants, the foliage soon droops, and perhaps becomes parched. Shading is therefore applied, and the sun's rays are excluded just as their benefit ought to be felt.

For growing rapidly in spring many kinds of tender and half-hardy plants, I believe that ventilating (till we find some better method), as well as shading, may be advantageously dispensed with. If no more fire heat is employed during cold nights and dull days than is necessary merely to keep the plants in health, and due attention is paid to the hygrometrical state of the atmosphere, the amount of natural heat and light the plants will bear profitably, and the rate and quality of their growth under the most favourable conditions, will surprise those who have not experimented on this subject. As an example, I may state that the smallest-sized cuttings of *Verbena*, *Tropaeolum*, &c., may be struck as late as the end of April, and probably at midsummer, in a dung-frame in full sun without a leaf drooping. The dung used for the hotbed must be sweet—a condition much more rare than is generally supposed. There is, doubtless, in addition to the vapour of water, something emitted during the fermentation of stable-dung, to strengthen the plants in proportion to their rapid elongation, which we have not yet been able to imitate closely in our houses, and for which due allowance must be made; but that very much may be done by water alone is beyond all doubt.

Having broached a subject which in my opinion deserves much consideration, I now leave it in the hands of your more able correspondents.—K. T. W.

[We heartily reiterate the first sentence of your letter, "Why do we keep our hothouses and forcing-pits at an almost uniform temperature regardless of weather?" But do experienced gardeners do so? It is many years since Mr. Fish directed particular attention to this subject, and the regulation of inside temperature according to outside temperature, and the presence or absence of sunshine; and the whole practice of ventilation and shading has been minutely and amply discussed in our pages. That, however, does not lessen the value or the interest of your letter. As a general rule, shading is chiefly necessary in sudden changes from dull to very bright weather, especially if plants are near the glass. There is no doubt that there is much which is genial to tender vegetation in a sweet dung-bed, and in a sweet tan-bed; and there can be no question of propagating as you state, or even farther on in summer, under glass, without a hotbed, and with little or no shading, if the light is diffused before reaching the cuttings.]

PHOENIX POTATO.—It will gratify other readers, as well as Mr. Fenn, to know that one of that gentleman's "Home Grown," the *Große Castle Seedling* Potato, exhibited by him

recently at the Royal Horticultural Gardens, and for which he has been awarded the Society's medal, yielded last season at Gryffe Castle, Renfrewshire, on a piece of ground measuring 1 imperial acre, 1 rood, and 15 poles, the enormous crop of 223 bags, weighing, net, 22 tons, 5½ cwt., quality first-rate, "flavour excellent," causing quite a run for seed in the spring.

FORCING SEA-KALE.

Nor being able to afford the market price frequently for forced Sea-kale, I wish to try the plan mentioned by Mr. Fish in your Number of November 18th, and need further information.

1. Will a box from a grocer suit?
2. Do you recommend plants bought from a nurseryman at 7s. 6d. per hundred?
3. At what time of the year should the plants be put in?
4. How soon after the bed is made?
5. Leaf mould I cannot easily procure, coal ashes are too dirty, what can I substitute?
6. Can the plants be used afterwards?—M. L. I., Devonshire.

[1. Such a box as you may obtain from a grocer will do, as an Orange-box, only it must be sound and without cracks, or you must cover it over. You can either make the small hot-bed, put the plants on it on soil, and then set the bottomless box over it as stated by Mr. Fish; or like Mr. Weaver (see page 418), you may put the plants in a box with a bottom, set it on the hotbed, or where there is a heat of from 50° to 60°, and cover with the lid. In many cases this will be best for beginners, as by uncovering, or by placing additional covering on the box, the temperature may be regulated at will. A heat of 55° is a nice average for Sea-kale, and the produce will be better if it seldom exceed 60°. Mr. Fish detailed some time ago how a clergyman used to have very early Rhubarb by putting good roots in barrels and boxes, placing these in his kitchen, and moving them near the fire at night. Almost any quantity of Sea-kale could be obtained by the same process. All that would be required would be the roots, the mild heat, moderate moisture, and darkness. Just as in the case of Rhubarb, the produce depends chiefly on what was stored up in the root and bud in the previous summer.

The very best Sea-kale which we ever had at Christmas was thus obtained: A rather large stokehole had been made and arched over, so as to hold a lot of fuel, and to go into it to the furnace we had to open a trap door on the level of the walk and go down a ladder; all the fuel had also to be tumbled in at this trap-door. There was room enough inside to hold a couple of loads of fuel. With some rough boards we divided off a part of it about 6 feet long, 3 feet wide, and 18 inches deep. The roots were placed at the bottom in sandy loam, and a rough lid, with an old bag over it, kept all snug and clean and the inside dark. By successions there were innumerable cuttings of nice stubby heads, averaging 6 or 7 inches long. Here the heat from the furnace was sufficient. A slight hotbed in a cellar, stable, or cow-house would do just as well.

2. Yes, such plants as you speak of will do; but the larger the buds or crowns the better, even if you should give a trifle more money for the roots.

3. To have a dish at Christmas, or rather on New Year's-day, you must lose no time. The earlier you want to cut the longer time will the plants take, unless you hasten them on too fast, when they are apt to come weaker. If the heat is so mild as to bring on the crop so as to be ready to cut in five or six weeks, you will like the produce better than if forced on in little more than half the time.

4. Put the plants in a few days after the bed is made. Set them to work directly, if you put the plants in a moveable box, as stated in "Doings of Last Week," or place them in pots or boxes.

5. Do not trouble yourself with leaf mould if you cannot obtain it. Any sort of soil will do, if sandy all the better, even sand itself, for, as stated above, the produce depends more on the state of the crowns and moisture than upon the fresh rooting. Sandy soil will do well with or without a little rotten dung.

6. The plants will be useful afterwards in proportion as you cut them once, twice, or more. In the latter case they will be little better than seedlings. If not much cut, by hardening off, and planting out in March and April; they will make fine plants for forcing, after they have grown out of doors for two summers, if well treated. This is how we generally manage such forced

plants: After being cut—say twice, and if the roots are in pots or boxes, we move them first into a shed, with a sprinkling of litter over them, and in a week or two into the open air, with a little sprinkling of litter to keep them from severe frost if it come, for though the plant is hardy enough, it is made tender by forcing, and must be hardened again gradually. Then about March or April we take the roots, and if from 9 to 12 inches long, we cut off the crown ends, say, from 4 to 6 inches long, and plant them by themselves, in rows 2 feet apart, and 6 inches apart in the row. Then we plant all the budless parts of the roots by themselves, but more closely together in the rows. The first lot will be rather better next year than seedlings, sown in the April preceding, a year old transplanted. The budless parts of the roots will scarcely be so good. There is, however, frequently a little trouble with seedlings, owing to mice and other depredators.]

"NATURE'S GUIDES FOR GARDENERS."

A CORRESPONDENT places at the head of his letter the above sentence, and asks whether there is any work published enumerating such guides, which he considers would be much more satisfactory than "the vague directions in gardening—'sow end of month,' 'plant middle of the month,' and so on." It is certain that no such work has been or ever can be published; there are too many operations required weekly in a garden that have no concurrent natural event.

There are some relative sayings which have been handed down for ages among gardeners; but they are so few that we do not remember more than these two: "When you have seen two swallows together sow Kidney Beans;" "No more frost, for the Mulberry leaves are opened."

For the following extract, relating to the subject, we are indebted to "Johnson & Shaw's Farmers' Almanac" for 1867, which is even more rich in useful and interesting information than usual:—"We are obliged to C. M. Caldecott, Esq., Holbrook Grange, near Rugby, for the period during six years when the cereals of his farm came into ear, flowered, and were harvested.

IN EAR.				
	Wheat.	Barley.	Oats.	Wheat in flower.
1861	June 20	June 23	June 20	June 25
1862	" 20	July 4	July 10	" 27
1863	" 15	June 18	—	" 20
1864	" 15	" 17	June 15	" 21
1865	" 7	" 19	" 7	" 14
1866	" 21	" 23	" 25	" 24
BROKEN HARVEST.				
	Oats.	Barley.	Wheat.	
1861	Aug. 16	Aug. 16	Aug. 10	Aug. 21
1862	Sept. 8	Sept. 6	" 25	Sept. 20
1863	—	Aug. 8	" 25	" 8
1864	July 28	" 8	" 2	Aug. 16
1865	" 20	July 31	July 31	" 23
1866	" 25	Aug. 4	Aug. 8	" 27

"We have noticed in our garden, in certain fixed beds, the same regularity; we refer to Strawberries and Asparagus, the first gatherings and cuttings of which we subjoin:—

ASPARAGUS.		STRAWBERRIES.	
1865	April 23	1865	July 2
1866	" 17	1866	June 26
1867	" 21	1867	" 19
1868	" 25	1868	" 21
1869	" 11	1869	" 12
1860	May 8	1860	July 4
1861	April 21	1861	June 1
1862	" 25	1862	" 9
1863	" 18	1863	" 12
1864	" 17	1864	" 15
1865	" 17	1865	" 19
1866	" 25	1866	" 19

QUEEN ANNE'S POCKET MELON AS A PRESERVE.

MUCH has been said of late of Queen Anne's Pocket Melon, but I have not noticed that any one has made mention of it as a preserve. I have picked upwards of a hundred fruit this season from a two-light frame, and the principal use for them here is to make them into a preserve, and as such they are first-rate. They are opened at one end, the seeds taken out, and they are then preserved whole.

I have nearly one thousand seeds by me; if any of your numerous applicants have not been supplied, I should be most

happy to give a few to any one who would send a stamped directed envelope to me.—THOMAS TOOP, *Gardener, Great Bromley Lodge, Manningtree, Essex.*

STOVE INSIDE A VINERY.

THE description given in No. 295 of the manner in which "R. F." was "served out" by an iron stove, and in which he states an opinion that a shorter horizontal flue would have prevented the mischief, induces me to trouble you to show that even a short horizontal flue will not always prevent injurious gases from entering a house where the feeding and ashpit doors are inside.

In 1863 I built a brick Arnott stove from the directions given in Mr. Rivers's work "The Orchard-House," in a greenhouse of mine, with Vines on the roof, the feeding and ashpit doors being inside the house. It answered well, and all went on right till the autumn of 1864, when it became necessary to light a fire to dry the house and ripen the Grapes. The fire had been lighted on and off for a fortnight, when one afternoon I noticed a peculiar smell, like the odour of fresh green leaves thrown on a fire. I looked at the fire, which was of coke, but could perceive no smoke issuing from it, although I could detect a slight sulphurous smell. I likewise glanced up at the Vines, but could see nothing wrong with the leaves. I guessed, however, what was going on, and at once opened all the top ventilators, and put out the fire. The next morning, to my dismay, every leaf on the roof, except just at the bottom, was brown and sere, and in a few days would crumble in the hand like scorched paper, and the bunches of Grapes hung alone in their glory unhurt, without a green and with hardly a brown leaf to keep them company. Now the horizontal pipe of this stove was only 25 inches in length, and there was then 7 feet of perpendicular pipe (four-inch). None of the plants in the greenhouse were injured.

I have seen much lately in the Journal about *Viola cornuta* as a bedding plant. Am I to understand that it may be planted out in spring with Pelargoniums, Verbenas, and so on, and that, like them, it will bloom continually throughout the summer? If so, how many plants must I purchase now to be able to raise enough by next May to plant the front row of a ribbon-border 50 feet long, and, say, 1 foot wide?—J. R. BAYTON.

[If charcoal had been used instead of coke the injury would not have occurred. Coke as well as coal emits sulphurous acid when burnt, and that acid is fatal to leaves. Charcoal only emits carbonic acid when burnt, and that, if not in great excess, is beneficial to plants.—EDS.]

HAYS'S PATENT STOVE.

HAVING seen the recommendations you published about a month ago in THE JOURNAL OF HORTICULTURE of Hays's patent stove, I was induced to procure one to heat a conservatory attached to my house, and which I have not any convenient means of warming. The conservatory is 20 feet long, 11 feet wide, and 13 feet high, span-roofed, and exposed on all sides. I at the same time obtained two bags of the peat charcoal, which is the fuel this stove is intended to consume. The fire was lighted on the 28th of October by placing in the stove a piece of the live charcoal, which had been previously ignited in the dining-room fire; and from that time till the present (November 28th), it has never been out night or day, but has kept up a constant and steady heat all the time, and the thermometer has never been below 45°, except on that severe Tuesday night, the 20th inst., when the temperature out of doors was 19°, and it registered 40°. The ordinary day temperature ranges from 50° to 55°, and were I to turn on the full draught it might be increased and maintained at 60°. I have used no fuel, and the stove being stood in the centre of the house is ornamental as well as useful.

I at first had my doubts about using a stove without a flue, having from former experiences of them discovered their deleterious effects; but in this case, though my house may be said to be hermetically sealed, the laps of the glass being all puttied, I have sat in it for an hour together reading and enjoying its genial temperature without suffering any oppression, headache, or uncomfortable sensation. I find, however, that to secure this condition care must be taken to keep the chamber at the top full of the charcoal, and every time the fire is fed that it should be supplied from this chamber, so as to refill the chamber

with fresh charcoal, which evidently has the property of absorbing the noxious gases generated in combustion.

One remarkable feature about this stove is that it produces a humid heat. When I first lighted it, the iron being all cold, there was so much condensation of moisture that little pools formed on the floor in various spots at the base of the stove, and on looking at the nozzle where the gas-pipe when used is intended to be fitted for a chimney, I saw steam blowing out as if from a boiling tea-kettle. After the fire has been lighted some time this disappears; but still there is much humidity, as I discovered by holding a piece of cold iron against the nozzle, when condensation immediately commenced, and the iron became quite wet.

The more experience I have of this stove the more pleased I am with it; and I am convinced that the humid and genial heat it produces is very beneficial to the health and the growth of plants. Those in my conservatory from being chilled and starved-looking, and particularly the *Zonale Pelargoniums* which had dropped all their leaves, are now growing fresh and green. The marvellous power this peat charcoal has of retaining ignition may be illustrated by the following circumstance: One night I made up the fire at ten o'clock, and the following morning when I came down at eight o'clock I found the fuel rather more than half consumed. The day was milder than usual, and I determined to allow the fire to go out, and consequently, did not add any more fuel. To my surprise, at eight o'clock in the evening when I went to light the fire I found it still alive, and after making it up and turning on the full draught, the heat was very speedily raised.

So satisfied am I with the working, the cleanliness, and the portability of this stove, I intend to place one in the hall, and that, too, without a chimney.—W. H. C.

ROYAL HORTICULTURAL SOCIETY.

WEEKLY SHOW, December 1st.—A collection of plants consisting of Heaths, &c., was shown by Mr. W. Young, gardener to R. Barclay, Esq., West Hill, Highgate, and obtained a first prize; another collection of plants consisting of Ferns, *Chrysanthemums*, &c., from Mr. W. Bartlett, Shaftesbury Road, Hammermith, was awarded a second prize. From the Society's garden, at Chiswick, was exhibited an interesting collection of plants, comprising *Primulas*, *Cyclamens*, and Heaths. An extra prize was awarded Mr. W. Young for a good collection of kitchen and dessert Apples. Mr. Hill, Angel Row, Highgate, contributed a collection of vegetables, to which a first prize was awarded. Mr. Young also exhibited a collection of vegetables, including a specimen of the Sea-kale Beet: a second prize was awarded this collection.

ENTOMOLOGICAL SOCIETY'S MEETING.

THE first November meeting of this Society was held, by permission of the Council of the Linnean Society, in the apartments of the latter at Burlington House, on the 5th ult., the chair being occupied by Sir John Lubbock, F.R.S., President. A resolution, containing a vote of thanks to the Linnean Society for the use of their rooms for the purpose of meeting, was unanimously carried. The Society's library still, however, remains at the old apartments in Bedford Row, where the Secretary attends regularly every Monday afternoon. Amongst the donations received since the last meeting were the publications of the Linnean and Royal Agricultural Societies, the seventh volume of Lacordaire's work on the Coleoptera, the sixtieth part of Hewitson's *Exotic Butterflies*, &c. The President urged the members who proposed to read papers at the Society's meetings, to give notice thereof to the Secretary sufficiently early to allow an announcement to be published in the preceding Saturday's Journal. This would have the effect of drawing persons conversant with the subject to the meetings, by which means more important results would be secured from the discussion than at present.

Mr. W. Wilson Saunders exhibited two larvae of Cicada, from Mexico, each of which presented a fungoid production growing out of the frontal region, dissimilar in shape in the two individuals, but supposed to be of the same species of parasitical vegetable. He was inclined to believe that the fungi grew only on dead specimens of the insects. Acting on the suggestion of the President, he proposed at a future meeting to bring forward for discussion the "Fungoid growths upon insects." He also exhibited two beautifully sculptured larvae cases from Brazil, probably formed by a Coleopterous larva.

Mr. Bates referred to an excellent article on insect-fungi in Hardwicke's "Science Gossip."

Mr. Bakewell sent for exhibition a box containing some new and interesting Beetles, recently received from Dr. Howitt, of Melbourne, Australia, chiefly belonging to the family *Lucanidae*.

Mr. Stainton exhibited *Stathenopoda Guarinii*, a remarkable little Moth, with very thick hind legs, which it does not employ in walking.

but holds up on each side of the body, like a pair of oars out of water; also a drawing of the caterpillar and of the gall upon the *Pistachia* (*Pistacia terebinthus*), within which the *Jassa* resides. These he had received from Dr. Standinger, of Vienna. From M. Lederer, of the same city, he also exhibited a beautiful series of *Tineidæ* collected in the Holy Land, sent to him for collation with Mr. Picard Cambridge's collection, which was intended for publication.

Mr. F. Smith exhibited some galls he had noticed on the Elm trees near Deal, which, at a distance, might easily be mistaken for Apples, being green and rosy in colour. They were, however, filled with hundreds of Aphides. [The species is a well-known one, having been figured by Dr. Geer.]

Mr. Pascoe exhibited two beautiful patella-like objects with a fluted surface, from Port Lincoln, supposed to be the cases of females of a species of *Coccus*. They were found upon the *Eucalyptus*.

The President exhibited specimens and highly-magnified drawings of a minute new Myriapodous insect, which he had detected in his grounds, at High Elms, Kent, remarkable for the comparative paucity of the legs, one pair being attached to the first segment, and two pairs to each of the four following segments. It is extremely active, although only one-thirtieth of an inch in length. He proposed to name it *Paucopus*. He had observed that it had the habit of cleaning its legs by drawing them through its mouth.

The Secretary exhibited some Beams from Egypt, very much infested with a small species of *Bruchus*; and Mr. W. Rogers a pale variety of *Hipparchia janira*, and a specimen of *Rumex crataegæ*; the left fore wing and the right hind wing were pure white, the remainder of the insect being of the usual dark colour.

The Rev. Douglas Timins sent a note on the times of appearance in France of *Argynnis Lathonia*, of which he had occasionally observed three broods, the third appearing in September in fine seasons.

A letter was read from Mr. H. Reeks, giving an account of his entomological captures in Newfoundland.

Mr. MacLachlan read "Descriptions of some new exotic Psocids," preserved in the Hopeian Museum at Oxford; and Mr. Edward Saunders read a paper entitled "Descriptions of six new species of Buprestids, belonging to the tribe Chalophorides of Lacordaire." A new Part of the "Transactions" of the Society was laid upon the table.

NOTES ON THE GARDENS OF THE EMPEROR OF RUSSIA AT TSARSKOE SELO.

The gardens of the Emperor of Russia at Tsarskoe Selo are well worth a visit if you are at St. Petersburg, but it would hardly pay to go there on purpose. At the same time any one having the time and money would do well to see the botanical gardens of the towns in his route. All the way to St. Petersburg the towns have something for the horticulturist to see—for instance, the gardens at Brussels are very nicely kept, and will repay an inspection. At Potsdam there are the king's gardens, and at Berlin there are beautifully laid out gardens. I believe Cologne, Frankfurt-on-the-Maine, and Königsberg all boast gardens; and one can hardly go through any garden without picking up some hint. If you are acquainted with the language of the country, and can converse freely with the gardener, he will exchange ideas, and be much pleased to think you have journeyed so far in order to see his garden. In short, travelling does every one good; it shakes our prejudices, gives us fresh ideas, makes us think better of other folk, and, lastly, gives us something to think about when we get home. All this, however, is taking me away from my subject.

I had the good fortune to know an officer in the Imperial army with whom I easily gained access to all the houses, the palace as well; a description of this, however, would not suit the readers of the Journal. The inevitable sentinel touched his "kepi" as we passed over the bridge into the park. Here were many promenaders; for when the Imperial family are not staying at Tsarski, as it is commonly pronounced, any one may walk about the grounds. Broad, sandy, curving, undulating walks, overshadowed by numerous trees and shrubs, make a delightful change from the hot glaring quays and perspectives of St. Petersburg; and hither it is that the Court comes when it quits the winter palace on the banks of the beautiful Neva. Here are miniature lakes, surrounded by trees and grassy slopes, with rowing and sailing boats dancing on their surfaces. One of these lakes—the largest—lies immediately below the palace, and on a sunny breezy day looks beautifully cool.

Here we have a succession of sloping walks and level strips of gravel. This is a *montagne Russe*, only now the snow is all gone, and nothing is seen but a long, long walk about 12 feet wide, stretching away for hundreds of yards. As we went along, I noticed a very pretty young lady—she held a paper-nose, or cigarette, in her delicately-gloved hand, and begged a light of a handsome young officer who stood by her side!

Many ladies do such things in this eastern country, but it does not suit our English notions. At the far end of this long walk we remarked an artificial rocky bridge. It crossed the path and rose in the air so high that one was tempted to think it was too large to have been made by human hands. A walk led up to it, and, on attaining the summit, the wind was strong enough to blow one away, had it not been for the parapet. The view of the lake and palace from this point was superb; but the task of describing this I leave for abler pens.

And now to the ranges. The first house we entered was a half span—a kind of house, by the way, to which I am very partial for vineries—with Vines planted inside the house, and running over to the wall at the back. In front was a broad stage, then a path, followed by another stage for Strawberries and the like. From this second stage to the rafters was a trellis screen, which served as a support to some smaller Vines. On a shelf near the glass fixed to this trellis were Strawberries bearing nicely; the sorts I was unable to learn, as the head gardener was away, and we had only a lad to show us through.

Passing through a glazed corridor, we came into another house of the same shape, and filled with delicious Apricots. This was in May, which speaks well for the gardener, when we think of the fearful climate during the winter months. It was in that winter that a horse trotted into its stable in St. Petersburg with its rider frozen to death in the saddle! Such cold as this we should be quite unable to cope with, but necessity is the mother of invention. This house, No. 2, was about 50 feet long by 15 broad. A path led through it, and on the right there was a sloping trellis, covered with trees in first-rate health, extending to the rafters: on the left, wires stretched to form an arch, over which were trained the fruit trees. There was a stage under this for various pot plants, and a pendant stage, close to the glass, for forcing early Strawberries.

In this range were seven houses, each from 50 to 100 feet in length, and all constructed and arranged on nearly the same plan. I regret that I am quite unable to speak in detail respecting the heating apparatus. In every case fires warmed the houses, but more I cannot say to be certain of speaking strictly within the truth.

A second range of houses, numbering five in all, contained fine healthy specimens of Peaches, Apricots, Vines, and Strawberries in all stages of growth. Some were in bud, some flowering, and some just setting the fruit, and all, I must say, looked extremely well. I have seen Mr. Rivers's houses at different seasons of the year, and can fairly say these would not have been shamed by the great Sawbridgeworth fruit-houses.

In the connecting-houses, or vestibules, were kept some pretty flowering shrubs, so that in passing from house to house the eye was relieved by gay colours. Here were no specimens worth mentioning, only the place deserves notice. Instead of going direct from one house into the next, you pass through a little conservatory—perhaps 10 or 12 feet in length, filled with plants, and kept in the most perfect order.

In conclusion I may say that the neatness of the whole establishment would have struck any gardener. Not a branch untied or out of place, hardly a leaf lying on the path, and yet there was no bustle, no noise; the men all worked quietly, and without attracting attention, and, so far as I was able to see, appeared intelligent.

I trust this rapid sketch may help to show what I have endeavoured to point out in my previous letters, that our friends in the East are both clever and artistic in their horticultural pursuits. Let us hope the friendship which seems to be springing up betwixt us may be furthered by a more intimate knowledge of each other's ways, and may we gardeners help in so desirable a result.—PATELIN.

TODMORDEN BOTANICAL SOCIETY.—Mr. Rogers, of Manchester, sent specimens of the interesting *Crocus nudiflorus*, gathered at Northenden. The same gentleman sent, also, a number of specimens of Lady Ferns, raised from spores by Mr. Glover, an enthusiastic Manchester amateur. They were mainly forms of Miss Frisell's Lady Fern, *Athyrium Filix-femina* Frisellii. We remarked one form splendidly crested; another, which might fitly be named "*samosum*," was very curious. It was remarked by the President that the varieties of British Ferns were "evidently breaking up into groups like the genera of other plants." Referring to *Crocus nudiflorus*, the Librarian stated that he had recently met with a large patch of it—a hundred plants or more—near Great House, in Stansfield. This is worthy of note, as being the first instance of the plant having been found in the neighbourhood.

CONSTRUCTING ICE-HOUSES.

It may be interesting and useful at this season to discuss the various modes of preserving ice. On this subject I for one should like to hear the experience of others, so I will now state the different methods which I have tried.

The first was after the old style, as I was instructed by the old gardener, now, poor man, no more. I well remember his orders—"Now, lads, you must pack the straw 1 foot thick between the house and ice, and wedge it firm, or else the ice will not keep till November." "But," I say, "sir, by July or August the straw is always rotten; so, wet dirty straw will be against its keeping." "Oh, that's your idea, is it, young Broccoli Sprout? I can tell you that I have had the charge of filling this house for nearly forty years, and I should now know better than you." "Well, sir," I said, "if you will allow me to pack one half of the house with straw and the other without, we shall then see which is best for keeping." "Very well, my boy, you shall do as you wish; but remember, I do not like these new-fangled ways." So in June the house was opened, and there was little or no difference to show which mode had the advantage; but by August the ice which had been packed with about 12 inches of straw had left the wall; the ice at the side without straw was about 6 inches from the wall, and by November it had the advantage by 14 inches: so straw after this was not used except in the passage.

The best system I ever found was to pack the ice in sawdust, placing about 1 foot round the ice, beating it solid as the filling proceeded, and when this was finished to place about the same thickness at the top.

A very important point respecting which I ask for information is this, Should an ice-house be ventilated? I am aware that many advocate ventilation, but I could never perceive any advantage from it, but, on the contrary, the reverse. Ice always dissolves rapidly to the bottom of the door, and below the ventilation it always keeps the best. If I were about to build an ice-house I should have it so arranged as to have a flat place at the top to break the ice on, also to have the door at the same place to avoid all side ventilation. On the outside of the walls I would have ashes packed between them and the soil to keep the house as dry as possible. The ice-house when finished I would cover with Ivy, not trees, and proper drainage should not be forgotten.—R. H.

THE CULTIVATION AND PREPARATION OF CASTOR OIL IN ITALY.

Two species, or more probably varieties, of *Ricinus*, are found growing spontaneously in the kingdom of Italy—*R. communis* and *R. africanus*, the distinction being chiefly in the stigmata, of which the former has three deeply-forked, and the latter six.

I have not been able to learn at what epoch these plants were introduced, but it would seem probable, from the early use of castor oil, that they have figured amongst Italians, or at least Sicilian plants, from a remote period, choosing their habitats in the moist thickets that abound near the southern coasts.

The cultivation of Castor-oil plants for the purpose of commerce, and especially for export trade, has a comparatively recent date, and the introduction of one of the most esteemed varieties dates back but twelve years.

Although the cultivation is carried on in nearly every province in the kingdom of Italy, as well as the Papal States, it is chiefly from the province of Verona that we draw our supplies both of seed and oil. There are other large manufactories at Leghorn, Genoa, &c., but both there as in the Veronese territory, it is frequently found necessary to purchase foreign seed to make up for the scarcity of the native supply, which is regulated in great measure by the value of Maize and Sagina—plants preferring the same soil as that required by the *Ricinus*.

The two principal varieties cultivated south of Verona are the black-seeded or Egyptian, and the red-seeded, or American. The latter yields a greater per-centage of oil than the former, but the oil is not so pale in colour. The Egyptian variety differs also in requiring a rich soil, whereas the American plant prefers a dry soil with plenty of sun.

Speaking generally, the land best adapted for the cultivation of the Castor-oil plant should not be too argillaceous, but friable, and well exposed to the sun. In November the ground is ploughed up and allowed to remain all the winter exposed to the frosts and north winds, which are frequently severe. By

this means the soil is well broken up, and in the spring a series of deep furrows are made, about 5 feet apart for rich soils, or 4 feet for ground of a less fertile nature. In these furrows are deposited beds of stable manure, which are lightly covered up by means of a plough. In May, or before, according to the precocity of the season, the soil in the furrow is well mixed, and the Couch Grass and other weeds having been uprooted, planting is commenced. The seed, which is carefully selected, is held in the aprons worn by the women, who take up three or four grains between the thumb and two fingers, and thrust them into the middle of the furrow, dexterously earthing-up the hole in the withdrawal of the fingers. The distance between the plants should be about 8½ feet. After fifteen or twenty days the young plants will have sprung up to a height of about 2 inches, and the women again visit the fields for the purpose of selecting the strongest plants in each bunch, destroying the others and earthing-up the chosen one. After another fifteen days, the plants having attained a height of about 8 inches, a plough, usually drawn by two oxen, is passed between them, to turn more soil into the furrows, and the women following earth-up the plants, leaving only the leaves uncovered. Later, the "incalvation," as it is called, is repeated with the spade, and the plants being now sufficiently strong, are left to themselves.

The seeds begin to ripen early in September, when women with baskets on their arms make a daily gathering of the ripe grains, passing by each plant every two, three, or more days, according to the intensity of the heat. As soon as gathered the seeds are spread out on an open floor, to insure their being dry, and, as they retain the outer covering, are called "*Ricino investito*." To obtain the seeds as they are met with in commerce, the following means are adopted:—A layer of about 2 inches of "*Ricino investito*" is spread over the wooden floor of the barn, and a man without shoes takes an implement made of a flat piece of wood about 20 inches square, underneath which is attached a layer of cork about 2 inches in thickness, fixed with a handle springing at right angles from the wood so that it may be used by the man standing. This implement is pushed backwards and forwards, running gently over the seeds, so as to break up the integument, which is subsequently winnowed away. The seed with double covering yields about 66 per cent. of the commercial article.

As soon as the gathering of the seed is over, the plants are cut down and tied in bundles, which are left out to dry, and used in the winter for fuel. The winnowed integument is also used for burning in stoves, or for mixing with stable manure for vine-dressing. Finally, when the land is ploughed up in November, the roots are collected, dried, and used for burning. A certain oleaginous principle appears to pervade the whole plant, rendering it useful as a heat-giving and brilliant combustible.

The height of the *Ricinus* varies from 5 to 10 feet according to the soil, so that the husbandmen have to take into consideration its probable growth, in order to allow a sufficient space for the development of the branches. It is calculated that the Veronese territory alone yields an annual produce of over five millions kilograms of seed, [4921 tons] being less than the quantity required by the manufacturers, who are thus obliged to use a portion of foreign seed.

The preparation of the oil is conducted with great care, so that even the last integument is removed before the seed is subjected to pressure. For this purpose the grains are passed through a machine consisting of two large revolving wooden rollers, beneath which is placed a powerful winnowing-machine for the separation of the seed from the covering, now become broken by the action of the cylinders. As a further guarantee, a number of little girls are employed as sorters, and for this purpose are usually seated, when, placing the seed before them by small quantities, they reject those from which the seed-coat has been imperfectly removed, as well as the damaged and rancid grains, throwing the good ones into baskets placed beneath.

Every manufactory of any importance has at least five or six hydraulic presses, which are placed in a room heated in winter to a temperature of about 70° Fahr. Strong, coarse, hempen press-bags, about 14 inches wide, are always kept ready, and in each is placed about three kilograms of cleaned seed. The bag, being longer than wide, folds over when in the press, and between it and the superposed one is placed a sheet of iron that has been heated to about 90° Fahr. The presses usually contain from twenty to thirty bags, which have a thickness of rather less than 2 inches each. All the oil which flows from this pressure is of the first quality. The marc is now ground in a mill, and again placed in the bags; the sheet iron,

as usual, is placed between each layer, and the whole gently heated up to about 100° Fahr., when it is again subjected to pressure, the result of which is a further yield of straw-coloured oil, much used in the manufacture of printer's ink, &c. The blanched seeds sometimes yield a total of 40 per cent. of oil. The first quality is kept in a warm place (in summer just beneath the roof), for some days, and deposits a quantity of mucilaginous and fatty matter, after which it is filtered. The filtering bags are made of a cloth found in commerce, and have a capacity of seven kilogrammes of oil. When filled, the mouths of these bags being tied up, they are placed on the tin-lined shelves, disposed in such a manner round a room that, by the aid of tubes, the filtered oil flows from all sides into the vessel placed to receive it. Each room usually contains about 2000 kilogrammes of oil, the temperature being kept at about 55° Fahr. The exhausted marc is used as a manure for Hemp and Flax, for which purpose it is supposed to be well adapted.

Some little while ago it was proposed to use the marc as a cosmetic in the same way as we employ almond meal, but it did not answer this purpose, as it was found to possess considerable irritant properties. Might not these qualities render it a useful counter-irritant applied as cataplasma? As the

marc is readily obtainable in England, it would be as well if some one were to report on its therapeutical value.

Complaints have been made of the difference of quality in Italian castor-oils, and of the tendency in some samples to deposit fatty granules in cold weather; but the oil prepared according to the method just described, which is that employed in the Veronese territory, cannot be surpassed in taste or appearance, and gives little or no deposit in the ordinary temperatures of winter. The deposit complained of is due to greater heat having been employed in the processes of pressure and filtration.

From the large doses of the oil used in Italy,—sometimes 2 ozs., simple or mixed with almond oil,—it would seem that the comparative tastelessness and brilliancy of the oil are acquired at the expense of its purgative power. I have heard or read that the Chinese use castor-oil in their salads. Surely it can possess but feebly the purgative qualities of other castor-oils, leading one to suppose that climatic influences and mode of cultivation oppose the development of the purgative principle, which is still further lessened in the oil by a careful preparation. It is probable that to some such causes we must attribute the peculiar blandness of true Italian castor-oil.—H. GROVES, Florence (in *Pharmaceutical Journal*).

NEW BOOK.

THE VEGETABLE WORLD: Being a History of Plants with their Botanical Descriptions and Peculiar Properties. By LOUIS FIGUIER. Chapman & Hall, London.

THE other day we were remarking how science was now universally popularised, and that men could be found who had the art of making the driest subjects palatable, just as the French cook made a *ragoût*, the basis of which was a pair of

old leather breeches, and obtained the approbation of such an epicure as the old Duke of Queensberry. We referred to recent works on astronomy, geology, chemistry, and many others. We went further back, pointed out how, even in law, Coke's Reports



had been versified; and botany had been made a romance in Darwin's "Loves of the Plants." The friend with whom we were conversing there interposed, by adding, "Ah! but no one has succeeded in producing a botanical work that is instructive as well as popular." Our reply was placing in his hand the volume the title of which we have copied above, and we ob-

tained his assent to our opinion that it is the best book for imparting botanical knowledge attractively which has hitherto been published.

M. Figuer is one of those to whom we alluded, who specially have the art of making dry subjects palatable; and he is a master of the art, for whilst making them palatable, he does

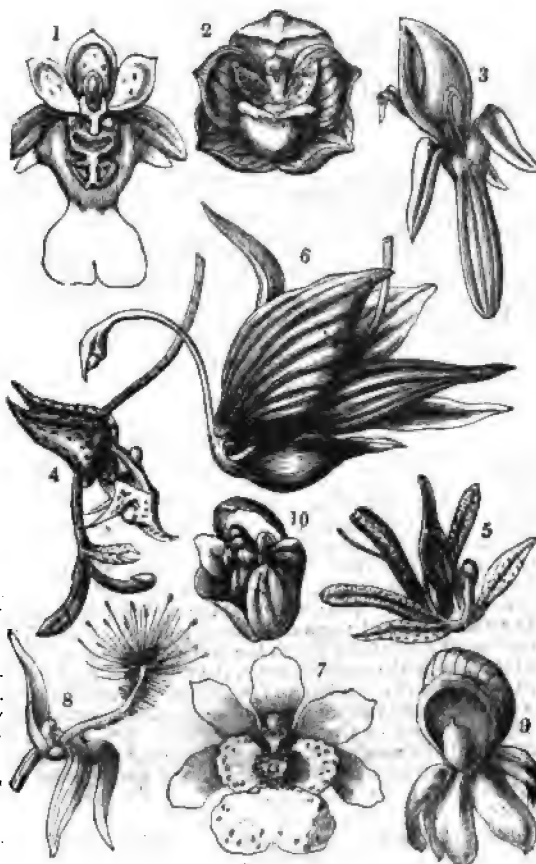
not omit parts which the student must at some time digest; but he so introduces, so arranges, and so spices them, that none are ill-flavoured, and none put on one side. Dropping our metaphor, this volume is written in untechnical language, begins by inserting a seed in the soil, follows it through all its changes, the growth of the perfect plant, the development and uses of the various parts, the phenomena of plant life, the various forms plants assume, and by which they are classed; shows how they are distributed over the world's surface, and the scenery they form by their associated groups. All this is told in readable language, and illustrated by 446 woodcuts, and twenty-four full-page views of the scenery formed by the plants in their native places. These illustrations are most artistic. But we have borrowed from Messrs. Chapman & Hall two of the engravings, and we will enable our readers to form a judgment.

"The flower of *Victoria regia* is about 40 inches in circumference. The effect produced upon Sir Robert Schomburgk, when he first saw this magnificent flower on the River Berbice is thus described:—

"It was on the 1st of January, while contending with the difficulties nature opposed in different forms to our progress up the River Berbice, that we arrived at a point where the river expanded, and formed a currentless basin. Some object on the southern extremity of this basin attracted my attention; it was impossible to form any idea what it could be; and, animating the crew to increase the rate of their paddling, we were shortly afterwards opposite the object that had raised my curiosity—a vegetable wonder. All calamities were forgotten; I felt as a botanist, and felt myself rewarded: a gigantic leaf, from 5 to 6 feet in diameter, salver-shaped, with a broad rim, of a light green above, and a vivid crimson below, rested on the water. Quite in character with the wonderful leaf was the luxuriant flower, consisting of many hundred petals, passing in alternate tints from pure white to rose and pink. The smooth water was covered with the blossoms, and, as I rowed from one to the other, I always observed something new to admire. The leaves are of an orbicular form, the upper surface is bright green, and they are furnished with a rim round the margin from 3 to 5 inches in height; on the inside the rim has a green colour, and on the outside, like the under surface of the leaf, it is of a bright crimson; they have prominent ribs, which project an inch high, radiating from a common centre; these are crossed by a membrane, giving the whole the appearance of a spider's web; the whole leaf is set with prickles, and, when young, is rolled up longitudinally. The stock of the flower is an inch thick, and studded with prickles; the calyx is four-leaved; each sepal is 7 inches in length, and 4 inches broad; the corolla covers the calyx with hundreds of petals; when first opened it is of a white colour, but subsequently changes to pink; it is very fragrant. Like all other Water Lilies, its petals and stamens pass into each other, a petal often being found surmounted with half an anther. The seeds are numerous, and imbedded in a spongy substance. This plant has by some botanists been placed in the genus *Euryale*, whilst Lindley thinks it is nearer *Nymphæa*, from which it differs in the sepals and petals being distinct, the papilla of the stigma being prolonged into a horn, and the changing colour of its petals. This splendid plant has now been successfully cultivated in many of the hothouses of this country. Beautiful specimens are to be seen in the Royal Gardens, at Kew, and at the Crystal Palace, Sydenham, at Chatsworth, Sion House, and elsewhere."

"There is no order of plants," says Dr. Lindley, writing of Orchids, "the structure of whose flowers is so anomalous as regards the relation borne to each other by the parts of reproduction, or so singular in respect to the form of the floral envelope. Unlike other endogenous plants, the calyx and corolla are not similar to each other in form, texture, and colour; neither have they any similitude to the changes of outline that are met with in such irregular flowers as are produced in other parts of the vegetable creation. On the contrary, by an excessive development and singular conformation of one of the petals called the labellum or lip, and by irregularities either of form, size, or direction of the other sepals and petals, by the peculiar adhesion of these parts to each other, and by the occasional suppression of a portion of them, flowers are produced so grotesque in form that it is no longer with the vegetable kingdom that they can be compared, but their resemblance must be sought in the animal world. Hence we see such names among our native plants as the Bee, Fly, Man, Lizard, and Butterfly Orchis, and appellations of a like nature in foreign countries. Of these resemblances some

idea may be formed by the annexed engraving, where 1 represents *Oncidium raniferum*, or the Frog Orchid, so called because its lip bears at its base the figure of a frog couchant; 2, *Peristeria elata*, the Spirito Santo plant of Panama, in whose flower we find the likeness of a dove in the act of descending



on the lip; 3 is *Prescottia colorans*, whose lip is a fleshy hood; 4, *Gongora fulva*; 5, *Cirrhaea tristis*; 6, *Cycnoches ventricosum*, singularly like a swan, the arched column forming the head and neck; 7, *Oncidium pulvinatum*; 8, *Bolbophyllum barbigerrum*; 9, *Catasetum viride*; and 10, *Peristeria cerina*."

These quotations are sufficient to show that the translator has done his work well, and we know of no oversight except one in the preface, which, consequently, has nothing to do with the book's correctness—we allude to the statement that plants, the world's "natural ornament, were absent" before the Deluge.

NOTES AND GLEANINGS.

MR. JOSEPH HENDERSON, who for more than half a century was the gardener of the Earls Fitzwilliam, at Wentworth Woodhouse, died on the 22nd of November. He had left the Earl's service in 1863. Not only was he a good gardener, but a good botanist. His notes, published in the "Magazine of Botany," in 1837, on the germination of Ferns, and some other researches in the same field, obtained for him an Associateship of the Linnean Society.

— We repeat our reminder that the latest date at which gardeners can send notice of their intention to be examined at Chiswick on the 18th inst., is the 11th.

— In addition to the cups we mentioned as already promised as prizes, to be awarded at the Royal Horticultural Society's Exhibition at Bury next July, we are glad to learn that the £25 for the ladies' cup for the best collection of Orchids, is provided, as well as the Borough Members' and the Town cups.

— In order to control the temperature of hothouses, as we see by the *New York Daily News*, Morin has constructed a

thermometer, as follows:—A platinum wire is fused into the bulb, and a second wire is inserted at the lowest degree which can be tolerated in the building. Both wires are connected with a galvanic battery. As long as the mercury stands at the proper height, thus indicating sufficient heat, the current is closed, and a magneto-electrical apparatus, in the dwelling of the keeper, is kept in motion; but if the building becomes cold the mercury sinks, the current is broken, and the magnetic apparatus ceases to move. Dr. Kohlrausch has modified this apparatus so as to be self-regulating. By a similar contrivance he opens and shuts the ventilators according to the temperature—the whole system being driven by an electro-magnet.

WORK FOR THE WEEK.

KITCHEN GARDEN.

In favourable weather carry out whatever digging, trenching, and draining have been marked out for completion during the winter; deferred until a later period severe weather may set in, and thus the operations may be retarded, and many advantages lost. *Cabbages*, hoe between the earliest-planted, also between Lettuces. This should be frequently done to growing crops through the winter, as by keeping the surface loose and open frost is prevented from penetrating to any great depth, and the roots are kept in a more active state. *Carrots*, on a dry warm border a few beds of *Early Frame* or *Short-top Radish* should be sown, either singly or with the *Short Horn Carrot*. Cover the beds with straw or litter till the seeds vegetate, when they should be uncovered every day when not frosty. A frame should likewise be placed on a gentle bottom heat for sowing the above to draw early. *Celery* and *Cardoons* may have a final earthing-up when the soil is dry, if the weather has prevented its being done sooner. *Leeks* should likewise have more earth drawn to them before severe frosts set in. They are an excellent vegetable when well blanched. *Peas*, whenever the ground becomes dry put in a second crop of these and *Mazagan Beans*, as the first crop will most likely fail through the wet state of the soil. If *Peas* are sown in the open quarters, the drills should be protected by a ridge of earth left to the north or east of the rows. Keep down mice by trapping, they are sometimes troublesome to early-sown crops of the above. Land intended for *Potato* culture should be rough-dug, and exposed to the action of the weather as much as possible, and manure, if employed at all, should be most sparingly applied.

FRUIT GARDEN.

If hitherto delayed, *Strawberry*-beds should be dressed with short, rich manure. We are not partial to the practice of digging between the rows. The manure can remain on the surface until the spring, when it can be slightly pricked in with a fork. Remove all unnecessary runners if they have been allowed to remain. Where ripe fruit is wanted early, a portion of the most promising pot plants should now be selected and placed in a pit where they can be afforded a gentle bottom heat, or if this cannot be commanded, a *Peach*-house or *vinery* which has just been closed for forcing will do. They must, however, be kept close to the glass, for they require all the light that can be possibly afforded them at this season, and a free admission of air on mild days, with a low temperature until the fruit is fairly set; and if these conditions can be combined with bottom heat, success will be more certain than under any other circumstances, and this will be more easily done in a small pit than in a house the temperature of which must be regulated by other things. Finish pruning *Currants*. Some of the larger kinds will repay the attention of superior culture; trained to a wall and spurred as *Vines*, they approach some varieties of *Grapes* in the size and weight of their bunches. When orchard trees have been for some years left unpruned, the hand-saw will be required to thin out the larger branches. Keep the middle of the trees open to admit air, and to promote the formation of fruit-buds on the interior branches. It is, however, a bad practice to leave any description of fruit tree to itself, as it would in all cases pay the cultivator to prune once a-year at least.

FLOWER GARDEN.

Let lawns be well rolled when sufficiently dry for the purpose. Every part of the turf should be frequently swept during the winter. Nothing adds so much to the enjoyment of pleasure-ground scenery as well-kept turf; and when connected with evergreen shrubs, an agreeable relief to the dreariness of the season is afforded, which renders the loss of more attractive plants less to be regretted. At the same time see that the walks

are kept dry and firm, in order that they may be traversed with comfort at all times. While the weather continues mild, the planting of deciduous trees may be proceeded with, provided the state of the land will permit the operation to be profitably conducted; with the exception of the more hardy kinds, the planting of evergreens had better be deferred till April. *Deciduous* trees may be pruned whenever there is time, except during severe frost. Many of the larger-growing plants will only require going over once in two or three years, to reduce straggling shoots to proper limits, and to thin out where too thick. Smaller-growing shrubs, as some kinds of *Cytisus* and *Spiræas*, should, however, be pruned annually, if a good show of flowers and uniformly shaped bushes are desired. The pruning and tying-in of climbing plants on trellises, &c., may remain till February. Many of the above plants are partly evergreen, and when pruned at this season their supports have a somewhat naked appearance throughout the winter. Any straggling, loose growths should, however, be cut away at once. The chief anxiety of the amateur as far as *Tulips*, *Dahlias*, *Carnations*, and *Pinks* are concerned, is now brought to a close. *Tulips* ought all to be planted, and if the bed has been properly made, will require but little attention till they are fairly out of the ground. *Dahlias* ought to be all taken up by this time, and their tops cut off, and having been exposed under cover in a dry, airy place, as recommended lately, they will be ready to stow away. It is a good plan to put them crown downwards, for it sometimes happens that an exudation of sap takes place when the top is removed, and has a prejudicial effect on the crown of the root, often causing rotteness. *Carnations* must be kept hardy—that is to say, if they have been potted early. If obtained since the middle of October they will require much more attention, for at this time of year, being comparatively stationary, it will be found that late-potted layers are more susceptible of damp and frost than those which are well established.

GREENHOUSE AND CONSERVATORY.

Included in the management of plants, if there is one care that should exceed others, at this season more particularly, it is that of regulating the temperature—governing, in fact, judiciously the amount of fire heat. The very variable nature of the weather lately has made the exact fulfilment of this duty sufficiently difficult; but as no great good is ever attained without some expenditure of labour, the additional trouble should be cheerfully undertaken with the belief that the reward will be commensurate. The supposed necessity of resorting to fires in greenhouses may often be obviated with real advantage to plants by the use of night-coverings. Double mats, or whatever may be devised for the purpose, will, except in extreme cases, maintain a night temperature of from 35° to 40°, which is an amount of night heat sufficient for the ordinary occupants of our mixed greenhouses during the winter months. During dull weather occasional fires will be required for the conservatory; they should be lighted in the morning, in order that the house may be thrown open during the day to promote a free circulation of air, this will dry up damp, and help to keep the plants in a healthy state.

STOVE.

This will require a very liberal ventilation now, increasing fire heat if necessary in order to accomplish it. Still apply moisture to the air, although in a diminished degree; but withhold moisture entirely from the roots of deciduous *Orchids*, or those sinking into a state of repose. Any late specimens, or importations making late growths, should have the lightest situation in the house, and receive a little moisture at the roots occasionally; light, however, is the great desideratum in order to produce those secretions on which alone depends the power of going through a long winter successfully. If there is any prospect of a scarcity of bloom next May, a portion of the *Achimenes* and *Gloxinias* should be repotted at once and placed in a warm part of the stove, choosing such as have been longest at rest, and a few *Clerodendrons*, *Allamandas*, a plant or two of *Echites splendens*, and of *Dipladenia crassifolia*, may also be started.—W. KNATE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

THE work has been to a great extent a repetition of that of last week—wheeling whilst the ground was hard and dry, and digging and trenching when the reverse, but fair above. The *Dwarf Kidney Beans* grown in an earth-pit, and covered

with old sashes in October, have yielded some good gatherings, which came in useful for shooting parties as late as the 27th. The small pots still showing will not have sun heat enough to swell, so we shall turn the plants out to afford room for other things, such as Endive. Plants from seeds sown in pots out of doors in the beginning of October, and placed in a pit where there was heat as the nights became too cold, are now producing. Potted a lot for succession, turning them out of four-inch pots into eight and ten-inch pots, and sowed a lot more in four and five-inch pots, to be transferred afterwards to larger pots. The chief object for not sowing in the producing-pots at once is the much less room these small pots take up at first, and when such pots can be spared, we prefer sowing in pots to sowing in shallow boxes and transplanting afterwards, as the plants suffer less check when turned out of the small pots. With a little additional care, however, the plants do very well when transplanted from boxes. In either case the soil should be well aired and warmed before receiving the young plants. Where room is no great object, it takes much less labour to sow the seeds in a bed at once, 2 feet from the glass, or in pots where the plants are intended to produce their crop. Where the most is to be made of little room, the transplanting system must be resorted to. We have done very well with successions in a six-light pit, where we grew nothing else for the time, by sowing first three lights in rows 2 feet apart, and in about three weeks sowing the other three lights. As soon as the first sowing was 6 inches in height, the plants were earthed up a little, leaving a shallow furrow between the rows. When the plants were in bloom, and setting their fruit, or pods rather, another sowing was made in the furrow, and covered with leaf mould; and by the time the first crop was nearly off and cleared away, the second crop was earthed up, and the furrow left for another sowing, and thus four or six lights would yield a good, regular supply. For this mode it is next to essential that there should be the means of commanding a regular bottom heat, and a dry heat for the atmosphere of the pit, which can be made into a moist heat as desirable. Under such treatment the free use of the syringe and clear warmed soot water in sunny days, constitute a great safeguard against thrips and red spider, both of which are apt to attack Kidney Beans when in a dry heat. Soot water may also be put into the evaporating-pans, and the walls may be whitened with lime and sulphur, and a dash of soot if they should otherwise be too white and glaring.

Gave plenty of air to Radishes, Lettuces, Cauliflower in head and young plants, and to Asparagus coming through, and placed a number of Potatoes in small pots, to root in the Mushroom-house and other places, to prepare them for pots or for beds.

FRUIT GARDEN.

Took the whole of the clearings from flower-beds to make a bottom for several frames, placed leaves and mowings from pleasure grounds on the top of them, and covered all with half-decayed grass and litter that had formed beds for cuttings, laying aside the more rotten part on the surface, to go for manuring the ground the first frosty morning, and then filled the beds with *Strawberry plants in pots*. The place where these frames stand had been beds for Carrots, Radishes, Cucumbers, Potatoes, &c., and served many purposes of that kind in spring and summer. With the exception of a little fresh litter and leaves, the beds were formed chiefly of half-decayed materials, and they were too decayed in the autumn to be of much use for cuttings that would be the better of a little heat, and, therefore, what was on the beds was allowed to remain, and for the cuttings fresh slight beds were made a yard or so in front of them, consisting chiefly of a mixture of long grass and litter, and half-rotten leaf mould, with ashes for the top; and the frames being lifted on, a good place was secured for late cuttings. These, as detailed the other week, have now been housed, and the frames are at liberty. The beds made last spring, being well decomposed, were wheeled on the ground for Strawberries during the first frost which we had, and on their site the clearings from decayed and frosted flower-beds were used as a bottom, leaves and mowings from pleasure grounds placed above them, and as the leaves are dry and loose, for the purpose of consolidating them, the surface of the beds used for cuttings is placed aside for wheeling at the first favourable opportunity. The grass and litter that formed the base of the temporary beds are forked on the top of the new beds at the back, and when well shaken, will, especially with a sprinkling of coal ashes, form a nice bottom for setting the Strawberry plants in pots on, merely to give them a little start

before taking them into the houses. It would not be safe to plunge the pots, as such a mixture in damp weather may heat more violently than would suit the Strawberries; but with the pots set merely on the top, the heat can be regulated to a nicety by the air afforded. Had we the shelves of the houses in which we intend to force at liberty, we might with less future labour as respects moving, fill these shelves at once, but they are not at liberty; and if the Strawberry-pots were on the shelves they would require more labour in watering than will be necessary in frames, where they will need very little for a month to come.

Before placing the Strawberry-pots in the frames the pots were washed, the larger and somewhat spotted leaves twisted carefully off, the surface of the soil pricked over with a pointed stick, a little of it turned off, and a rich fresh surfacing given. If a pot was dry it was watered before the surfacing, so that all afterwards should tell their condition as to dryness. We would not have entered into such details had not several correspondents requested us to give full particulars whenever possible, and from what we have stated it may be seen—

First, that for some purposes frames are more useful than pits. Some of our two-light boxes have a fresh place or a fresh bed to stand on at least six times in a twelvemonth. You cannot move a pit, though you can move the sashes. The moving of a frame simply set on four bricks enables you to have air all round, and through the inside of your box when that is desirable. Frames intended to be moved should not be over-deep, and consequently heavy. From 15 to 18 inches deep at the back, and from 9 to 12 inches at the front, are good sizes for moving.

Secondly, it is often important, when a piece of ground is set apart for frames to stand on, if there are beds beneath them, to have the ground wide enough for two sets of beds. By this means, when the earliest beds on the north side can do without protection, or only with that of a few branches, the frame and sashes may be removed to another bed in front. Then, as in the present case, when the one set of beds is thoroughly decayed and removed, what is only partially wasted in the later bed may form a component part of the new beds, and being close at hand, can be so used without the trouble of bringing it from a distance.

Thirdly, it may be seen that everything that will ferment and give out heat in the process of decomposition may be used for hotbeds, especially where great heat is not wanted. We could obtain so few leaves at present, that, but for the clearings from flower-beds, we could not have formed a bed for these two or three frames to stand upon so as to obtain any heat, even with the assistance of the bottoms of the slight beds made in autumn. Now there will be as much as will be necessary, and we must have our early beds in the back row, as the place where the temporary beds stood in autumn would be too much shaded for winter and spring. Now, the rough materials of these beds are rendered perfectly safe by the covering of sweet decayed materials at the surface. Such rough beginnings also constitute a sort of nucleus for less or more of hotbeds for the season—for instance, now they will do what is wanted for Strawberries. If the heat be not enough we can add a few leaves, and plunge or part plunge the pots, guarding always against too much heat. There would also be enough for early crops of Radishes, and for Turnips if wanted early. If, on removing the Strawberries, we wanted the beds for Asparagus or Potatoes, we would most likely fork the beds over, and add a couple of barrowloads of fresh fermenting material to a light. If, when they were gone, we wished to have long Cucumbers and Melons, we would take off the soil, turn the bed again, and add a little more fermenting material. For growing ridge Cucumbers and Vegetable Marrows these would want nothing more than to be planted in the soil that suited Radishes, Carrots, and early Potatoes, either with the help of the sashes at first, or a little additional protection if the frames were moved to some other place. According to the amount of turnings, and the work done by and the heat obtained from the bed, would it be thoroughly rotten by the autumn, or a good portion of it would be only so far decayed as to come into use for mixing and surfacing in another year.

We have found it of great advantage to have such a foundation as that referred to made for a line of beds, and should have felt more independent if we could have had double or treble the amount of rough material. We have heard numerous complaints and repinings from the proprietors and the managers of little places, as to what could be done with the litter and droppings from one horse, or two at a time, whilst

visions of Mushrooms, Sea-kale, Rhubarb, and Asparagus floated before their mind's eye, only to tantalise them, or to lead to the conclusion "it is of no use trying;" whilst in these small places we have seen heaps of refuse from flower-beds, grass and leaves from the lawn, steaming away and polluting the sweet air, that if mixed with the litter from the stable, using the best part of an old hotbed to mix and to cover with, would have given the proprietors all they wanted, though, in small quantities, except Mushrooms; and these they could have had in the spare stall of the stable, by saving the most of the droppings during the summer, and spreading them thinly to prevent their wasting by decomposition. Where there is abundance of fresh manure, let it be worked up and become half decayed in the sweetening process by all means, for such is best for beds of long duration; but for all beds where a mild heat only is required, there is no occasion for wasting the material in much sweetening, as a layer of sweet material trodden firm at the surface will arrest the ascent of the deleterious gases.

Pruned, limed, and tied-up a number of Gooseberry and Currant bushes, and even before doing so had help that we did not want from tomtits, bullfinches, and that tribe of troublemakers. We were obliged to prune, as some branches, from the buds being abstracted last year, were next to bare and wanted taking out. On rough pruning, the bushes were tied-up something like a loose faggot, and received a good application of lime and water through a syringe. We have some thought of shaking a little hay over the bushes and allowing it to remain until the buds break, or a little later, and then uncovering and untieing the bushes. The mere tying will keep the birds from a good many of the buds, and the lime we trust will make them somewhat distasteful; but we mean to thin the birds, and have already killed a few, though we would not do so if anything would prevent their causing so much injury. Some fine bushes that never looked better than last spring, were so stripped of buds after all our care, that the plants were almost killed. Some beautiful Thorns just managed to keep alive, as not only every flower-bud, but almost every wood-bud was picked out; and what was, perhaps, most annoying, we found great quantities of buds of Plums and Pears lying on the ground, picked off in wantonness, when there was no attempt to eat them. If there are Larch trees near the garden they generally prove a great resort for bullfinches and tomtits. They are both so beautiful, and the former so useful in summer, that it goes against the grain to hurt them, or kill them; but in many old gardens it is coming to be the question, How thin the birds, or how go without out-door fruit? What is most annoying is to see your own trees and bushes almost stripped, and to go into the neighbouring villages and see the trees and bushes untouched. In the latter places there is not generally the number of shrubs and trees in which to nestle and shelter; and there are the boys, not to speak of the girls, ever on the move, and they help to keep birds away. We have heard enough and seen something of what birds could do in a fruit garden, but until the last two or three years we would scarcely have believed that they would soon leave such a track of desolation behind them. Were we laying out a fresh garden in a place where game was highly preserved, if the kitchen garden had walls, we would have no trees or bushes, except against the walls, and the fruit we would chiefly have from dwarf trees and bushes, each sort in a quarter by itself, and in a separate garden that could be thoroughly netted over in the winter and spring. It is almost impossible to secure trees now if placed round the walks of a kitchen garden. Wire netting, with meshes too small for a tomtit, would be the best means, and when it was desirable to let the birds in in summer to have a look for caterpillars and other insects, large breadths of the netting could be opened, and replaced again before the fruit became enticing to them. At present we know of no limited number of places where birds of all kinds are so encouraged, that to obtain a crop of fruit is more a chance than anything else. Besides the loss of fruit, the trees are greatly injured, for if the wood-buds are left the tree will grow with more vigour than it ought to do, from having little fruit to support, and consequently more top and root cutting will be wanted than would otherwise have been required.

ORNAMENTAL DEPARTMENT.

The chief work has been cleaning up out of doors, and attending to and regulating plants in the houses. For particulars see last week. No more water than will keep plants right; no more heat than is necessary to keep them in health; plenty of air in mild weather, as little as possible in frosty weather, and

in houses where a high temperature is kept up; and as much cleanliness as possible as respects leaves, stems, stages, pots, and glass, are the chief things to be considered. In almost every case use water heated to within 50° or 60°, even for cold pit and greenhouse plants when they do want it, and in plant-stoves let the water be rather higher than the average temperature of the house.—R. F.

COVENT GARDEN MARKET.—DECEMBER 1.

THERE have been no fresh additions to our weekly supplies, which are all limited to the usual class of goods at this time of year. Kentish Cobs have slightly advanced in the wholesale market; Potatoes, also, of the best quality realise from 3s. to 6s. per ton in advance of last week's quotations.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.	
Apples 1/2 sieve	2	0	to	3	0	Melons each	2	6	to 5	0
Apricots doz.	0	0	0	0	0	Neotaries doz.	0	0	0	0
Cherries lb.	0	0	0	0	0	Oranges 100	8	0	to 12	6
Chestnuts bush.	12	0	20	0	0	Peaches doz.	0	0	0	0
Currents 1/2 sieve	0	0	0	0	0	Pears (dessert) .. doz.	2	0	0	0
Black do.	0	0	0	0	0	Kitchen doz.	2	0	0	0
Figs doz.	0	0	0	0	0	Fine Apples lb.	2	0	0	0
Filberts lb.	0	0	0	0	0	Plums 1/2 sieve	0	0	0	0
Cobs lb.	0	6	1	0	0	Quinces doz.	2	0	0	0
Gooseberries .. quart	0	0	0	0	0	Raspberries lb.	0	0	0	0
Grapes, Hothouse.. lb.	2	0	6	0	0	Strawberries lb.	0	0	0	0
Lemons 100	3	0	14	0	0	Walnuts bush.	10	0	0	20

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Artichokes each	0	0	to	0	0	Leeks bunch	0	5	to	0	0
Asparagus bundle	0	0	0	0	0	Lettuce per score	1	0	1	6	
Beans, Broad.. bushel	0	0	0	0	0	Mushrooms pottle	1	0	2	0	
Scarlet Run. 1/2 sieve	0	0	0	0	0	Must.& Cress, punnet	0	2	0	0	
Beet, Red doz.	2	0	2	0	0	Onions per bushel	2	0	3	6	
Broccoli bundle	1	0	1	6	0	Parley doz. bunches	2	0	3	0	
Brus. Sprouts 1/2 sieve	2	0	2	0	0	Parsnips doz.	0	9	0	1	
Cabbage doz.	1	0	2	0	0	Peas per quart	0	0	0	0	
Caulicums 100	2	0	4	0	0	Potatoes bushel	2	6	4	6	
Carrots bunch	0	4	0	6	0	Kidney do.	2	0	4	0	
Canflower doz.	2	0	6	0	0	Radishes doz. bunches	0	6	1	0	
Celery bundle	1	0	2	0	0	Rhubarb bundle	0	0	0	0	
Cucumbers each	0	9	1	0	0	Savoy doz.	1	0	2	0	
pickling doz.	0	0	0	0	0	Sea-kale basket	2	0	4	0	
Endive doz.	2	0	0	0	0	Shallots lb.	0	8	0	0	
Fennel bunch	0	8	0	0	0	Spinach bushel	2	0	3	0	
Garlic lb.	1	0	0	0	0	Tomatoes per doz.	0	0	0	0	
Herbs bunch	0	8	0	0	0	Turnips bunch	0	4	0	6	
Horseradish .. bundle	2	6	4	0	0	Vegetable Marrows dz.	0	0	0	0	

TRADE CATALOGUES RECEIVED.

B. Bracher, Wincanton, Somerset.—Autumn Catalogue of Conifera.

André Leroy, Angers, France.—Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, Seedlings, Roses, Camellias, &c.

TO CORRESPONDENTS.

“We request that no one will write privately to the departmental writers of the “Journal of Horticulture, Cottage Gardener, and Country Gentleman.” By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

VINEY (A Seed).—In the “Vine Manual” are plans recommended by the best gardeners. You can have it free by post from our office if you enclose thirty-two postage stamps with your address.

SOCIETY OF ARTS BOTANICAL EXAMINATION (A, and A Young Gardener).—There will be one at the Society of Arts next year. If you write to the Secretary, Adelphi, London, he will give you information as to the time, &c. Hentrey’s “Elementary Course of Botany,” published by Mr. Van Noort, will suit you.

MELONS.—In Mr. Hareman’s work, detailing the particulars of Sir J. Paxton’s houses, the American Ridge and Onion Melons are described as very excellent, and succeeding without bottom heat. Can any of your readers confirm this statement? I inquired for some seeds at Messrs. Charlwood’s, who are great importers of American seeds, and they knew nothing about them. If they are really as hardy and good as Hareman represents, they ought to be cultivated in ground vinees.—G. S.

MATERIALS FOR A GEOMETRIC WINTER GARDEN (T. T.).—Coal ashes, black; ground bricks, red; wine-bottles broken small, green; Derbyshire spar broken small, sparkling white; shells pounded, dead white; sand or ground yellow bricks, yellow.

VARIOUS (A. H. S. W.).—Peat charcoal may be purchased from Mr. H. Baker, 17, Hart Lane, Great Tower Street, London. Calico or fine canvas may be waterproofed by the composition stated at page 574 of the present volume. Nets are best tanned by letting them soak for twenty-four hours in a strong infusion of Oak bark. Any tanner would allow you to put a net into one of his tanning pits.

ROSES—MARSHAL NIEL AND AUSTRIAN BRIAR (Lady King).—Maréchal Niel will do out of doors in summer. We have not had it long enough to speak unerringly of its power of winter endurance, but I have no doubt that it can be wintered out of doors with a covering over its roots, and a little straw, or fern, placed against its wood. It is a veritable child of either Isabelle Gray or the Cloth of Gold. My specimen, sent by Monsieur Eugene Verdier two years back, has never given me a flower. The ends have been invariably blind. Still I shall go on with it on account of its golden colour, which is its main feature of excellence. I have no doubt that it is succulent at its tips, like the Cloth of Gold, and requires spring protection to save its bloom. It does not follow because nurserymen, with their science, fine land, and suitable appliances, out of thousands of plants show a boxful of fine blooms, that it is a good Rose for the general public. It is difficult without knowing circumstances to say what would make the Austrian Briar blossom. Probably it wants manure, or to be cut hard at the laterals, as Hybrid Chinas are cut; or it may be the pruner cuts it hard every year, in which latter case it will not bloom. To bloom these trees in perfection there should be duplicates, one plant should be cut hard at the laterals, which will bloom well the year following; and the other should be only tipped, or thinned out, and cut hard at the sides in the next year. Instead of having the Austrian Briars I think it preferable to have a large stock of these most beautiful and successful Roses: Gloire de Dijon, Triomphe de Rennes, and Céline Forestier.—W. F. RADCLIFFE, *Oxford Fitzpaine*.

FUNGUS ON PEACH TREE ROOTS (M. D.).—We believe it to be a species of Erysiphe, but it is certainly not a cause of death—it is a result of the trees being unhealthy. If the border were well drained, the trees protected through the winter and spring by glass lights leant against the wall, and the surface of the border mulched in summer, the trees would not die as you mention.

PINCHED-IN SHOOTS OF WALL TREES (C. P.).—You had better leave the pruning-back of your pinched-in shoots a little longer, until you are more able to cut surely to a wood-bud.

ROOTS OF SEA-KALE PLANTS (Idem).—For forcing we like to take up the roots of Sea-kale of a good length, but we have had very good cuttings from roots 6 inches long. We do not exactly perceive how you feel any difficulty in disposing of long roots in a Mushroom-house. You might take them up long, and pack them in pots 12 inches deep, as mentioned by Mr. Fish last week, and then if there were light in the Mushroom-house you could insure blanching by placing an empty pot over the full one.

PIT NOT SUCCEEDING (L. M. W.).—If you had not told us that you obtain as much heat as you require, we should have supposed that one pipe for bottom heat and the return for top heat would not have been enough for a pit 40 feet long, and 5 feet 9 inches wide, and even now we question if you have enough of heat, if you commence using the pit for Cucumbers before the end of March. In such a pit we would have preferred your 21-inch-wide inside pit to have been at the front instead of the back; but, as it is there, we think your failure may be owing to two causes—having the stems and foliage too near the glass, 15 or 18 inches would be near enough; and to the roots becoming too dry. We would advise in such a narrow pit from 15 to 18 inches depth of soil, an inch of clean-washed fine gravel on the top of the brickbats, and an open drain-pipe at every 4 feet, with one end among the clinkers and one above the soil, furnished with a plug, through which to pour water and keep moisture at the bottom.

HOT-WATER PIPE JOINTS (J. R. Proctor).—To do your joints well and be able to take them to pieces, you may head them with tow or hemp, and then fill up with that and red lead. After the pipes enter the house you may pack the sockets as above, and fill up with Portland cement, which is easily cracked and taken out by applying a dry heat beneath it, and for such a house will do very well. Your house will heat all the better from the boiler in the cellar being 6 or 8 feet below the level of the pipes in the house. There is no necessity for the return-pipe being of the same length as the flow-pipe; all that is wanted is that the flows should come from the top of the boiler, and the return enter the bottom. In fact, in your house, 80 feet by 14, you might take one or two flows along the end, the front, and the farther end, and along the back, either to a cistern or an air-pipe, and from thence take a return-pipe right to the bottom of the boiler. All that is wanted is a connection.

CANKER IN APPLE TREES (A. Gardner, Shepton Mallet).—If canker arises from the trees' old age there is no remedy; but if the trees are young canker may usually be avoided by keeping all their roots near the surface, manuring that surface, and mulching it during the summer.

GRAPE (Constant Reader, Lincoln).—It is quite impossible to tell its name from three berries. A bunch and a leaf are required to insure correct identification.

CANARIES AND PLANTS (E. Gresson).—The plants will not injure the canaries, but these will disfigure the plants.

FRUIT TREES FOR AN ORCHARD-HOUSE (F. T.).—You propose in your house, only slightly heated, to have a Peach, a Nectarine, and an Apricot against the back wall, and in the border in front two Peaches, two Nectarines, and two Apricots, and to have four Vines planted outside to go up the roof. Of the proposed arrangement, without knowing more of the house, we can say nothing farther than this, that the less heat there is in the house the better the Apricots will do, and as they require even more free air than Peaches, we would either have them entirely at the back of the house, or we would have them back and front at one end, so as to keep them more cool and airy. The kinds we would select are—Apricots: one Large Early, one Peach, one Moorpark. Peaches: one Noblesse, one Barrington, one Walburton Admirable. Nectarines: one Elruge, one Violette Hative, one Pitmaston Orange. Vines: one Bunchman Sweetwater, one Royal Muscadine, one Black Hamburgh, one Trencham Black. Mr. Rivers, of Sawbridgeworth, is the author of the "Orchard-House," &c.

REFLECTED CHRYSANTHEMUMS FOR EXHIBITIONS (B., a Constant Reader).—These are shown at many of the country shows, but seldom near London. The following are the best:—Invincible, white; Bixio, crimson; Annie Salter, yellow; Nell Gwynne, rose lilac; Triomphe du Nord, red; Ariadne, bluish shaded; Edwin Landseer, rose purple; Pelagia, orange; Christine, rose peach; Froigne, crimson; Cardinal Wiseman, bright red; Wonderful, crimson.

GRAPES NOT KEEPING (Sevenoaks).—Owing to the recent heavy rains your border has no doubt become excessively wet, and that is unfavourable to the Grapes hanging, and equally if not more so to filling the house with bedding plants. For the present crop we fear little can be done, and in future cover the border with wooden shutters or tarpaulin, so as to keep it dry, and maintain a dry atmosphere. Do not fill the house with plants requiring watering. Your plant is *Pernettya empetrifolia*, sometimes called *Arbutus pumila*.

DAPHNE INDICA LEAVES RUSTED (P.).—The leaf sent appears to us rusted through being kept in a damp, ill-ventilated structure. We do not observe any trace of insects. A rather warm greenhouse suits it, affording plenty of air and a moderate amount of water at the root at this and indeed at any season. A soil which is too wet, and too much pot room, are the chief causes of failure.

WEED (Marie).—You expect as much from us as the lover did from the wizard, "What is the name of the lady, a look of whose hair is enclosed?" We really cannot say which of the weeds it is from the scraps of root which you enclosed. If the leaves are grass-like it is probably Twitch, or Couch-grass, and if so you can only destroy it by having the ground repeatedly forked over, and every fragment of the roots picked out and burned.

EARLY SPRING FLOWERS FOR A RENOVATED GARDEN (Inquirer).—It is too late to sow seeds now; but you may obtain plants of Primulas, Mimulus, Alyssum saxatile, Anubria purpurea, and others. Iberis sempervirens, Chelidonium Marshalli, and ochroleucum; the variegated forms of Arabis alba and lucida; Christmas Rose, Hepaticas, Auriculas, and Polyanthus, as well as the early-flowering Dutch bulbs, such as Crocus, Hyacinths, Tulips, and Narcissus. To these you may add Phlox verna and subulata, and many other plants, as Wallflowers, Giant and Brompton Stocks, which may be followed by Rocketts, Catchfly, Dielytra spectabilis, and a host of others. You might also, perhaps, be able to raise a few Calceolarias from cuttings if you had the means to shelter them from severe frosts and could obtain cuttings now. They grow with very little trouble.

PLANTS FOR A NORTH BORDER (A Subscriber).—Several herbaceous plants of great beauty do best on a north border, as Phlox, Primroses, Rocketts, Polyanthus, and Mimulus, of many fine varieties, some Saxifragas and Veronicas, but most of the Sedums like sun. Of bedding plants Calceolarias are the most likely to succeed, and Iresine Herbata is also good. Lobelias will do, but Pelargoniums and Verbenas like sun. That fine herbaceous plant Dielytra spectabilis will also do well; and if there be portions of the border very much shaded and damp, it is not improbable that some of the hardy Ferns might succeed. Most shrubs will do well in such a place.

NAMES OF FRUIT (J. Scott).—The Apple is Alfriston; the Pear No. 2, Beurré de Rance. We shall be glad to know something further about "Gansel's New Bergamot." Is it the same as "Late Gansel's?" (Bodoiph).—3, Lewis's Incomparable; 3, Winter Quoining; 4, Nelson Oodlin; 5, Golden Pearmain; 7, Winter Bon Christian; 8, Catillac; 9, Sans Pépins. (J. Robinson).—1, Beurré Clairgeau; 2, Gansel's Bergamot; 4, Swan's Egg. We do not recognise any of the Apples.

NAMES OF PLANTS (M. Wild).—It is *Gilia coronopifolia*, by some botanists called *Ipomopsis elegans*. It is a native of Carolina. You will find it best cultivated as a biennial, and in a greenhouse.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending December 1st.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . . 25	29.515	29.427	53	30	45	45	W.	.60	Fine; cloudy; windy; fine; very slight frost.
Mon. . . . 26	29.969	29.806	49	36	45	45	N.W.	.01	Cloudy; clear and fine; overcast.
Tues. . . . 27	30.086	29.848	50	35	45	45	N.W.	.01	Very slight rain; overcast; clear; a few white clouds; fine; frosty.
Wed. . . . 28	30.228	30.164	47	34	45	45	W.	.00	Hoar frost; cloudless; bright sun; foggy; frosty.
Thurs. . . . 29	30.214	30.158	51	35	44	45	W.	.00	Foggy; clear and very fine; foggy at night.
Fri. . . . 30	30.092	29.895	45	30	45	44	S.E.	.00	Light hazy clouds; clear and fine; very fine at night.
Sat. . . . 1	29.789	29.780	35	31	45	45	E.	.20	Overcast; cold uniform haze; overcast; rain.
Mean	29.974	29.850	47.93	32.57	45.25	44.85	..	0.22	

POULTRY, BIRD, and HOUSEHOLD ECONOMICS.

GAME FOWLS.

I have been reading with great interest the papers of "Newmarket" on Game fowls, though I do not at all agree with a great many of his remarks. In the first place, I do not consider that either "Newmarket" or any one else can lay down as a rule what sort of Game are the best layers, fighters, etc., as it is a well-known fact to all breeders and fighters of Game, that good birds are to be met with of every variety, and that the very kind which in some parts of England may be almost esteemed for fighting, in another part may be considered soft, and a different variety preferred.

Again, I do not agree with "NEWMARKET," as to Game fowls being such prolific birds. I do not consider them by any means good layers—certainly not to be compared to Cochins, Brahmas, Spanish, or Hamburgs. They seldom lay in the winter, begin late in the spring, and leave off early in the autumn, to say nothing of the number of times they want to sit in the summer. Their hardiness when reared, I think all will admit, but as chickens they are frequently very delicate, and liable to cold.

I do not make these remarks because I am not a fancier of Game—I delight in them, and keep no other kind of fowls, and have not done so for some time; but I hope I am not so bigoted and narrow-minded as not to see any beauty, and not to believe in any good qualities in any other variety, because I like Game best.

I should very much like to meet with the breed of "white-legged barndoor fowls, bred large, which are equal in all useful properties, and superior in some respects to Dorkings, Cochins, Brahmas, Spanish, Hamburgs, or Malays." I am sorry to say they are not "common" in the north. Perhaps "NEWMARKET" could send us a few to improve our breeds.

I should be sorry indeed to be an exhibitor at a show where "NEWMARKET" was judge. Fancy a man judging Hamburgs and Dorkings, who can see no beauty in them.—A LANCASHIRE BREEDER OF GAME.

PROTRACTED TIME OF SHOWS.

WHILE quite appreciating your remarks on the Walsall Poultry Show, there is one arrangement in that, as well as in the Manchester and Norwich Shows, that might be improved—viz., the length of time for which birds are required to be from home. To each of these Shows you must send off your fowls on Thursday, and it will be Tuesday before they are sent from the Show, and as that is Christmas-day, it is questionable when exhibitors will receive their birds from Manchester. Every breeder of fowls knows how much his birds suffer from two or three days' confinement in a show, and how much more will it be in the above shows, where they will be confined for nearly a week without green or soft food of any kind? To persons who have spent months in bringing forward their birds for a show, to receive them back in such a condition that they scarcely know them, and to lose their weeks and months of labour by exhibiting at one show, seems too bad. I think a few words from you, and a little more thought at committee meetings, would obviate the above just cause of complaint. Allow me to give friend "NEWMARKET," who has afforded more real information in the description of Game fowls than any "Standard of Excellence," a pat on the back.—CHANTICLEER.

FARNWORTH POULTRY SHOW.

WILL any of the exhibitors who won silver cups or medals at the Farnworth Show, inform us through this Journal if they have been so fortunate as to have received them? We exhibited at the above-named Show and won a silver medal, and we think it is high time the Committee delivered the medals, &c., the Show having been held in the first week in October, nearly two months ago. We have written to the Secretary many times, and it is two or three weeks since he replied that we might look for a prompt settlement; he has since sent the money prizes, but no medal, with a form to be signed and returned as receipt of medal and prize money, but we wrote to him saying we had not received the medal, and have not since heard from him.—SAM. & ROBT. ASHTON, Mottram, Manchester.

BIRMINGHAM POULTRY SHOW.

THE following is a complete list of the animals exhibited at this great Show, and next week a full report will be given.

DORKING (Coloured, except Silver-Gray).—Cocks.—First, Mr. Arkwright, Stewall Hall, Derbyshire. Second, Admiral W. Hensby, 1, Grosvenor Cottage, Prescott. Third, Capt. H. B. Lane, Bracknell, Bucks. Fourth, W. H. Walker, Sheffield. Breasted, Essex. Fifth, W. B. Hall, Westport Park Farm, Heston-in-Arden. Sixth, Sir St. G. Gore, Houghton Hall, Wicksworth, Derbyshire. Highly Commended, Hon. Mrs. Arbuthnot, Linscombe, Rutland, N.B.; J. Potts, Danbury; J. Smith, Heston-in-Arden; J. H. Baker, Bessy Farm, Burton-upon-Trent. **Cockrels.**—First, Mrs. Arkwright. Third, T. Gutter, Swan & Hall, Manchester. Fourth, Mrs. Mrs. Arbuthnot. Fifth, J. Harrison, Redfern House, Maltby, N.B. Sixth, J. Whittington, Vow Tree House, Wootton Bassett, near Heston-in-Arden, Warwickshire. Highly Commended, Hon. Mrs. Arbuthnot; Mrs. Bessy, Shooter's Hills, Loughton, Staffordshire; Rev. E. Chasman, Walton-Panorama, Warwick; J. F. Fisker, Mrs. Arkwright; Messrs. Gunson & Jefferson, Whitehaven; Rev. J. F. Newton, Kirby-in-Cleveland, Yorkshire; J. D. Howson, M.D., Oulton Hill, Stafford. Commended, A. Fenton, Grimble Hall, Rochdale; J. Potts; Admiral W. Hensby; W. W. Eastham, Heston-in-Arden; G. Mitchell, Newton Mount, Burton-upon-Trent.

DORKING (Coloured, except Silver-Gray).—Hens.—First, Admiral W. Hensby. Second, Rev. G. Kneller, Stillingfleet Vicarage, York. Third, Duke of Newcastle. Fourth, Admiral W. Hensby. Fifth, Hon. Mrs. Arbuthnot. Sixth, Mrs. Arkwright, Stewall Hall, Derby. Highly Commended, Mrs. Dale, Falconer House, Scarborough; Rev. J. F. Newton, Kirby-in-Cleveland, Yorkshire; Messrs. Gunson & Jefferson, King Street, Whitehaven; A. Stanford, Ashurst, Hargreaves, Garsington, Commended, S. Burn, Whistly, Yorkshire; J. D. Howson, M.D., Oulton Hill, Stafford; J. Robinson, Garstang; J. Faulkner, Burton-upon-Trent. **Pullets.**—First, Hon. Mrs. Arbuthnot. Second, J. Fox. Third, Mrs. Arkwright. Fourth, Rev. J. F. Newton. Fifth, H. Lingwood, Basking, Needham Market, Suffolk. Sixth, Duke of Newcastle. Highly Commended, D. O. Campbell, M.D., County Lunatic Asylum, Bracknell, Essex; H. Ashton, Polefield, Prestwich, Manchester; Messrs. Gunson & Jefferson; Captain H. B. Lane, Lily Hill, Bracknell, Bucks; G. Mitchell, Newton Mount, Burton-upon-Trent. Commended, Hon. Mrs. Arbuthnot; J. Smith, Heston-in-Arden; J. F. Liebert, Warwick.

DORKING (Silver-Gray).—Cocks.—First, Countess of Dartmouth, Pashull, Albrighton, Wolverhampton. Second, Lady Bagot, Rugeley. Third, Mrs. Arkwright. **Hens or Pullets.**—First, E. Shaw, Oswestry. Second, Hon. Mrs. Arbuthnot. Third, Hon. Lady Bagot. Highly Commended, Lady S. Des Vaux, Drakelow, Burton-upon-Trent; W. H. Denton, Wolston Sands, Bedfordshire; J. H. Wilson, St. Bess, Cumberland; J. Faulkner, Bessy Farm, Burton-upon-Trent. Commended, Miss S. Gales, Bletan, Shrewsbury.

DORKING (White).—Cocks.—First and Second, J. Robinson. Third, H. Lingwood. Highly Commended, J. Taylor, Dawlish, Devon; H. Lingwood. **Hens or Pullets.**—First, J. Robinson. Second and Third, H. Lingwood. Highly Commended, Mrs. Dale, Scarborough; J. Robinson. Commended, W. A. Taylor, Manchester; J. Jennings, Birmingham.

COCHIN-CHINA (Cinnamon and Buff).—Cocks.—First, H. Yardley, Birmingham. Second and Third, H. Tomlinson. Fourth, Hon. Miss D. Pennant, Penrhyn Castle, Bangor, North Wales. Fifth, A. Fenton, Rochdale. Highly Commended, T. Tatham, Kingthorpe, Northampton; J. Nelson, Manchester; J. Cattell, Birmingham. Commended, Mrs. R. White, Broomhall Park, Sheffield; E. W. Boyle, Bray, Co. Wicklow. **Cockrels.**—First, D. Causser, Erdington, Birmingham. Second, H. Mapplebeck, Woodfield, Moseley, Birmingham. Third, A. Fenton. Fourth, H. Tomlinson. Fifth, T. Stretch. Highly Commended, H. Mapplebeck; T. Stretch; G. Fell; Messrs. Gunson & Jefferson, Whitehaven. Commended, Mrs. White, Sheffield; H. Tomlinson; T. Stretch; Hon. Miss D. Pennant; C. H. Bakewell, Derby.

COCHIN-CHINA (Cinnamon and Buff).—Hens.—First, G. Fell. Second, J. Nelson, Heaton Mersey, Manchester. Third, R. W. Boyle, Bray, Co. Wicklow. Fourth, C. Jennison, Belle Vue, Manchester. Fifth, H. Kester, Yardley, Birmingham. Highly Commended, H. Tomlinson; W. A. Taylor, Manchester; A. Fenton; C. Jennison. Commended, J. Cattell, Birmingham; H. Tomlinson; C. Jennison; T. Stretch. **Pullets.**—First, G. Fell. Second, T. Boucher, Birmingham. Third, H. Partridge, Birmingham, Edgbaston, Birmingham. Fourth, J. Nelson; H. Mapplebeck. Highly Commended, A. Fenton; Rev. S. C. Hamerton, R. White, Warwick; H. Mapplebeck; The Hon. Mrs. Sugden, Nantwich; R. White, Sheffield; D. Causser, Erdington, Birmingham; H. Mapplebeck. Commended, Boucher; A. Dixon, Erdington, Birmingham; T. Stretch. Commended, Rev. W. C. H. D'Aeth, Arborfield, Reading; R. Chase, Ballal Heath, Birmingham; J. N. Beasley, Brampton, Northampton; Miss Milward, Newton St. Lee, Bristol; D. Young, Leamington; W. Wood, Sheffield.

COCHIN-CHINA (Brown and Partridge-feathered).—Cocks.—First, A. Fenton. Second, T. Stretch. Third, J. R. Roddard, Aldwick Court, Wington, near Bristol. Highly Commended, H. Baldon, Goldstock, Bingley, Yorkshire; E. Tudman, Ash Grove, Whitechurch, Salop. Commended, J. Stephens, Walsall. **Cockrels.**—First, E. Tudman. Second, T. Stretch. Third, J. Firth, jun., Webster Hill, Dowsbury.

COCHIN-CHINA (Brown and Partridge-feathered).—Hens.—First, A. Fenton. Second, J. Stephens. Third, J. Shorthose, Newcastle-upon-Tyne. Highly Commended, E. Tudman; T. Stretch, Ormskirk. Commended, Mrs. Herbert, Powick, near Worcester. **Pullets.**—First and Second, E. Tudman. Third, J. Stephens. Highly Commended, T. Stretch; E. Smith, Middleton, near Manchester.

COCHIN-CHINA (White).—Cocks.—First and Extra Cup, Second, and Third, Rev. F. Taylor, Keastwick, Kirby Lonsdale. **Cockrels.**—First, Rev. F. Taylor. Second, Miss Biggar, Ecclefechan, Dumfriesshire. Third, R. Chase, Balsall Heath, Birmingham. Highly Commended, Mrs. Williamson, Quenborough Hall, Leicestershire; Rev. F. Taylor; R. Chase. Commended, Rev. C. H. Lucas, Edith Weston, Stamford; H. Tardley.

COCHIN-CHINA (White).—Hens.—First and Third, R. Chase. Second, F. W. Zurborst, Belville, Donnybrook, Dublin. Highly Commended, Rev. F. Taylor; G. Lamb, Compton, near Wolverhampton. Commended, Rev. F. Taylor. **Pullets.**—First, Second, and Third, R. Chase. Highly Commended, Hon. Mrs. Arbuthnot; G. Lamb; F. W. Zurborst. Commended, Rev. F. Taylor; J. Gardner, Bristol; G. Lamb; Mrs. Williamson.

BRANNE POOTRA (Dark).—Cocks.—First, Hon. Mrs. Arbuthnot. Second, G. Meares, Bitterne, near Southampton. Third, J. K. Fowler. Fourth, R. W. Boyle. Highly Commended, Rev. A. D. Shafto, Durham; R. W.

Beggs; E. Smith; W. Wykes, Hinchley; W. Hargreaves, Manchester; Mrs. Hargreaves, Reading; Mrs. Hurt, Aldersley, Derby. **Commended;** J. Munn, Stockheads, near Manchester; Capt. H. D. Radcliffe, Hitchin; W. Hargreaves; Mrs. Hurt; Hon. Mrs. Arbuthnot; J. Statter, Liscard. **Hens or Pullets.**—First, H. Lane, York. **Second, G. Johnson, Runcorn, Surrey.** Third, Mrs. Hart. Fourth, Capt. H. B. Lane. **Highly Commended, H. C. Cole-Gill; Hon. Mrs. Arbuthnot; Capt. H. B. Lane; H. Lane; R. W. Boyle.**

BAKERS FOOTRA (Light).—Cocks.—Cup and First, J. Pares, Postford, Gillingham. **Second, E. Pigeon, Lympstone, near Exeter.** **Highly Commended, H. Savile, Ollerton, Notts; F. Crook, Commended, E. Pigeon; Mrs. Clark, The Mall, Chiswick; F. Crook; Hon. Mrs. Arbuthnot. Hens or Pullets.**—First, F. Crook. **Second, Hon. Mrs. Arbuthnot. Highly Commended, J. Stevens, Macclesfield; W. Pares, Oakbrook, Derby; E. Pigeon. Commended, J. Pares; Messrs. R. & E. Eds, Worthing, Sussex.**

MAJAZ.—Cocks.—First and Second, J. C. Cooper, Cooper Hill, Limerick. **Highly Commended, G. S. Ballance, Homerton, near London, N.E. Commended, Rev. A. G. Brooks, Ruyton XI. Towns, Salop. Hens or Pullets.**—First, Rev. A. G. Brooks. **Second, Rev. G. Hustler, Stiffingfleet Vicarage, York. Highly Commended, Rev. G. Hustler. Commended, W. Lest, jun., King's Norton; J. C. Cooper.**

CHIVE CURA.—Cocks.—First and Second, W. Blinkhorn, Weterdale, St. Helen's, Lancashire. **Highly Commended, J. C. Cooper; Rev. W. J. Mellor, Colwick Rectory, near Nottingham; Hon. Mrs. Arbuthnot. Commended, The National Poultry Company (Limited), Bromley, Kent; Col. S. Wortley, Grove End Road, London. Hens or Pullets.**—First, Col. S. Wortley. **Second, W. Blinkhorn. Highly Commended, W. Blinkhorn; J. Dixon, North Park, Bradford; Hon. H. Fitzwilliam, Westworth Woodhouse, Rotherham, Yorkshire. Commended, Col. S. Wortley; The National Poultry Company (Limited); M. Leno, Markyate Street, near Dunstable, Beds.**

SPANISH.—Cocks.—First, H. Lane, Bristol. **Second, H. Beldon. Third, T. B. Hartley, Heywood, near Manchester. Fourth, W. B. Bull, Newport Pagnell, Bucks. Highly Commended, C. T. Bishop, Birmingham; R. Teebay, Fulwood, near Preston. Cockerels.**—First and Second, D. Parsley, Third, H. Lane. **Fourth, J. R. Rodbard. Highly Commended, Hon. Miss D. Pennant, Penrhyn Castle, Bangor, North Wales; W. R. Bull; G. Lamb; R. P. Williams, Glasellin, Clontarf, Dublin; E. T. Holden, Walsall. Commended, A. Heath, Calne, Wilts.**

SPANISH.—Hens.—First, H. Beldon. **Second, N. Cook, Chowbent, near Manchester. Third, W. Boné, Bristol. Fourth, A. Heath. Highly Commended, E. T. Holden, Walsall. Commended, A. Heath. Pullets.**—Second, D. Parsley. **Third, W. R. Bull. Fourth, H. Lane. Highly Commended, W. Roberts, Halifax; T. Bamfield, Clifton, Bristol; E. T. Holden. Commended, T. B. Hartley, Heywood, Manchester; Hon. Miss D. Pennant.**

HAMBURG (Black).—Cocks.—First, S. Shaw, Stainland, Halifax. **Second, Sir St. G. Gore, Bart. Third, J. Dixon. Highly Commended, E. Freer, The Grange, Birmingham. Commended, G. Lingard, jun., Birmingham. Hens or Pullets.**—First, G. Lingard, jun. **Second, Sir St. G. Gore, Bart. Third, R. F. Goodwin, Middleton, near Manchester. Highly Commended, R. F. Goodwin.**

HAMBURG (Golden-pencilled).—Cocks.—First, T. Wrigley, jun., Tonge, Middleton, near Manchester. **Second, F. Pitts, jun., Newport, Isle of Wight. Third, Sir St. G. Gore, Bart. Fourth and Fifth, Rev. R. C. Roy, Salford Rectory, Boston. Highly Commended, C. Tattersall, Neweburgh, Manchester; F. Pitts, jun. Commended, J. Lowe, Whitmore House, near Birmingham. Hens or Pullets.**—First, Mrs. Bailey. **Second, F. Pitts, jun. Third, T. Wrigley, jun. Fourth and Fifth, J. E. Powers, Biggleswade, Beds. Highly Commended, F. S. Bagshaw, The Heath, Uttoxeter; F. Pitts, jun. Commended, W. Morgan, Queensville, Stafford.**

HAMBURG (Silver-pencilled).—Cocks.—First, J. Preston, Allerton, near Bradford. **Second, J. Logan, Maindee House, near Newport, Mon. Third, S. Shaw. Fourth, Sir St. G. Gore, Bart. Fifth, A. Woods, Sefton, Liverpool. Hens or Pullets.**—First and Second, W. Hodges, Sidbury, Worcester. **Third, H. Beldon. Fourth, J. Logan. Fifth, Rev. T. L. Fellowes, Belington Rectory, Acle, Norwich. Highly Commended, Sir St. G. Gore, Bart.**

HAMBURG (Golden-spangled).—Cocks.—First, J. Chadderton, Old Lane, Holliswood, near Oldham. **Second, T. Fletcher, Great Malvern. Third, J. Fox. Fourth, J. Palmer, Wednesbury. Fifth, J. Preston, Allerton, near Bradford. Highly Commended, J. Roe, Hadfield, near Manchester; H. Beldon. Commended, R. S. Moore, Gateacre, Liverpool; F. Greenwood, Rochdale. Hens or Pullets.**—First, J. H. Wilson, St. Bees, Cumberland. **Second, J. Chadderton. Third, J. Palmer. Fourth, F. Greenwood. Fifth, W. Beeston, Wednesbury.**

HAMBURG (Silver-spangled).—Cocks.—First, Sir St. G. Gore, Bart. **Second, Mrs. Pettit, Basingstoke. Third, W. Horton, Albrighton. Fourth, T. Wrigley, jun., Tonge. Fifth, Sir St. G. Gore, Bart. Highly Commended, Mrs. Hurt. Commended, W. Cannan; J. Dixon. Hens or Pullets.**—First, J. Robinson. **Second, J. Roe. Third and Fourth, J. Fielding. Fifth, Messrs. Bowman & Fearon, Whitehaven. Highly Commended, F. H. Neville, Birmingham. Commended, Rev. F. Tearn, Newmarket. Disqualified, W. Cannan, Adolphus Works, Bradford, Yorkshire (needle through comb of bird).**

PUZZLE (Black with White Crests).—Cocks.—First, R. Charlesworth. **Second, J. Smith, Kighley. Third, T. P. Edwards. Hens or Pullets.**—First, T. P. Edwards. **Second, J. Smith. Third, F. Unsworth. Highly Commended, T. P. Edwards.**

POLLISH (Golden).—Cocks.—First, W. Silvester, Hampden View. **Second and Third, Mrs. Pettit. Hens or Pullets.**—First, H. Beldon. **Second, Sir St. G. Gore, Bart. Third, W. Silvester. Highly Commended, Mrs. Pettit. Commended, W. Silvester.**

POLLISH (Silver).—Cocks.—First, Second, and Third, G. C. Adkins, The Leighwoods, near Birmingham. **Highly Commended, H. Beldon. Hens or Pullets.**—First, P. Unsworth, Lewton, near Newton-le-Willows, Lancashire. **Second, G. C. Adkins. Third, Sir St. G. Gore.**

ANY OTHER DISTINCT VARIETY.—First, Col. S. Wortley, London (La Fleche). **Second, The National Poultry Company, Limited (Houdan). Third, Countess of Aylesford, The Bury, Leamington Spa (Cuckoo Dorking). Fourth, T. Walsley, Chester (Buff Polish). Highly Commended, D. Le Souff, Crediton, Devon (La Fleche); The National Poultry Company, Limited (La Fleche); H. Savile, Ollerton, Notts (Japanese Bantams); F. W. Zurborn (Sultans); T. Walsley (Buff Polish). Commended, Col. S. Wortley (Houdan); The National Poultry Company, Limited (Houdan); Rev. G. Hustler.**

GAZE (Black-breasted Red).—Cocks.—First, J. H. Williams, Springfield, Walspool. **Second, G. W. Moss, Algham, Liverpool. Third, E. Aykroyd,**

Bradford, Pockthine. Fourth, T. Robson, Pockthine. Fifth, C. W. Bradbury, Middleton, near Manchester. Highly Commended, W. Bradley, Second Navigation, Worcester. Cockerel.—First, F. Sales, Crowle, Bawtry. **Second, Sir St. G. Gore, Bart. Third, J. H. Williams. Fourth, T. Robson. Fifth, E. Aykroyd.**

GAZE (Black-breasted Red).—Hens.—First, Sir St. G. Gore, Bart. **Second, J. H. Williams. Third, T. Woods, Okeston, Worksop, Notts. Fourth, J. Anderson, Melton, N.B. Fifth, Mrs. Hay, Sudbury, Derby. Pullets.**—First, E. Aykroyd. **Second and Third, W. J. Pope. Fourth, E. Aykroyd. Fifth, W. Cox, Derby.**

GAZE (Brown and other Reds, except Black-breasted).—Cocks.—First, T. Burgess, Bursleydam, Whitchurch, Salop. **Second and Fourth, Sir St. G. Gore, Bart. Third, J. Mason, St. Clement's, Worcester. Highly Commended, R. Pashley, Worksop; T. Statter; Sir St. G. Gore, Bart. Cockerel.**—First, J. Wood, Wigan. **Second, Sir St. G. Gore, Bart. Third, Duke of Newcastle. Fourth, F. Sales, Crowle, Bawtry. Highly Commended, J. Smith; G. Clements; T. Burgess; J. Wood. Commended, Sir St. G. Gore, Bart.; A. B. Dyas, Madeley, Shropshire.**

GAZE (Brown and other Reds, except Black-breasted).—Hens.—First and Third, J. Wood. **Second, G. W. Moss. Fourth, M. Billing, jun., Wood End, Nottingham. Pullets.**—First, Second, and Third, J. Wood. **Fourth, E. Aykroyd. Highly Commended, W. Bourne, Heavly, near Stockport; R. Swift, Southwell, Notts; T. Burgess; T. Statter; Sir St. G. Gore, Bart. Commended, R. Pashley.**

GAZE (Duckwing and other Greys and Blues).—Cocks.—First, Messrs. J. & A. Briggs, Rawden, near Leeds. **Second, A. Fenton. Third, St. Mathew, Stowmarket, Suffolk. Highly Commended, G. W. Moss; J. Halsall, Ince, near Wigan; W. Bradley. Cockerel.**—First, Messrs. J. & A. Briggs. **Second, Sir St. G. Gore, Bart. Third, W. Bourne.**

GAZE (Duckwing and other Greys and Blues).—Hens.—First, W. Bradley. **Second, J. H. Williams. Third, Sir St. G. Gore, Bart. Pullets.**—First, Sir St. G. Gore, Bart. **Second, J. Mason, St. Clement's, Worcester. Third, Duke of Newcastle. Highly Commended, J. Halsall, Ince, near Wigan.**

GAZE (Blacks and Brassy-winged, except Greys).—Cocks.—First, R. Limbrick, Kenilworth. **Second, Messrs. Bullock & Rapson, Leamington. Cockerel.**—First, A. G. Westington, Boston-upon-Trent. **Second, Messrs. Bullock & Rapson.**

GAZE (Blacks and Brassy-winged, except Greys).—Hens.—First, Rev. W. J. Mellor, Colwick Rectory, near Nottingham. **Pullets.**—First, R. Limbrick. **Second, Messrs. Bullock & Rapson.**

GAZE (White and Piles).—Cocks.—First, T. West, St. Ann's, Beeston, Lancashire. **Second, Rev. F. Watson, Mosley, Kelvedon, Essex. Cockerel.**—First, Rev. F. Watson. **Second, G. W. Moss, The Beach, Algham, Liverpool.**

GAZE (White and Piles).—Hens.—First, Sir St. G. Gore, Bart. **Second, J. Fletcher. Pullets.**—First, Sir St. G. Gore, Bart. **Second, T. West.**

GAZE BANTAM (Black-breasted and other Reds).—Cocks.—First, J. W. Morris. **Second, G. Smith, Staveley, Derbyshire. Third, R. Charlesworth, Manchester. Highly Commended, J. K. Fowler; A. Fenton; A. Cettam, Easthorpe, Southwell. Commended, J. Statter; J. E. Sheldon, Wednesbury.**

GAZE BANTAM (Any other variety).—Cocks.—First, H. Shumack (Duckwing). **Second, J. E. Sheldon (Black). Third, Sir St. G. Gore, Bart. (Duckwing).**

COCK AND TWO HENS.

BANTAMS (Gold-laced).—First and Second, M. Leno, Markyate Street, near Dunstable. Third, Rev. G. S. Orwuy, Tiverton, Devon.

BANTAMS (Silver-laced).—First and Second, U. Spary, Dunstable, Beds. Third, M. Leno.

BANTAM (White, clean-legged).—First, Rev. F. Tearn. Second, H. Beldon. Third, J. R. Jessop, Hull. Highly Commended, Sir St. G. Gore, Bart.

BANTAMS (Black, clean-legged).—First, H. Beldon. Second and Third, T. Davies, Newport, Manchester. Highly Commended, Mrs. Russey, Highworth, Wilts; E. Cambridge, Bristol; H. Draycott, Humbleton, near Leicester. Commended, J. W. Morris, Rochdale, Lancashire.

GAZE BANTAM (Black-breasted Red).—First, J. W. Morris. Second, H. Shumack, Southwell. Third, R. Charlesworth, Brooks Bar, Manchester. Fourth, Rev. W. J. Mellor. Fifth, J. K. Fowler.

GAZE BANTAMS (Brown and other Reds, except Black-breasted).—First and Second, T. Dyson, Halifax (Brown Reds).

GAZE BANTAM (Any other variety).—First, Sir St. G. Gore, Bart. Second, J. Crosland, jun. Third, G. Smith.

DUCKS (White Aylesbury).—First and Second, Mrs. Seamons. Third, J. K. Fowler. Highly Commended, Duchess of Marlborough, Blenheim Palace, Woodstock, Oxon; — Pattison, Maldon, Essex; J. K. Fowler. Commended, J. K. Fowler.

DUCKS (Rouen).—First and Third, S. Shaw, Stainland, Halifax. Second, Sir St. G. Gore, Bart. Fourth, J. Mann, Stockheads, near Manchester. Highly Commended, J. Nelson, Heaton Mersey, Manchester; F. Parlett, Great Baddow, near Chelmsford, Essex; Hon. Mrs. Arbuthnot; A. Fenton. Commended, W. Stephens, Highnam Green, Gloucester.

DUCKS (Black East Indian).—First, A. Fenton. Second, Rev. W. Sergeantson, Aston Bunnell Rectory, Shrewsbury. Highly Commended, J. R. Jessop, Hull. Commended, Major F. D. L. Smith, The Grange, Halesworth.

DUCKS (Any other variety).—First, J. Dixon, Bradford (Mandarins). Second, C. W. Brierley (Cassocks). Highly Commended, J. Morris, (Caroline); H. Savile (Caroline); Hon. Mrs. Colville (Pure Wild). Commended, Mrs. J. Clarke (White Parvian Duck); T. C. Harrison, Hull.

GAZE (White).—First, Mrs. Seamons. Second, J. Lyett. Goshawks.—First and Third, Mrs. Seamons. **Second, J. C. Cooper. Highly Commended, Rev. G. Hustler; Mrs. P. Wolfestian, Tamworth; T. T. Lawden, Northfield, near Birmingham.**

GAZE (Grey and Mottled).—First and Second, Mrs. Arbuthnot. Highly Commended, J. K. Fowler (Toucan). Goshawks.—First, Mrs. Arbuthnot. **Second, Mrs. Seamons. Third, Rev. W. J. Mallor, Colwick Rectory, near Nottingham. Highly Commended, J. C. Cooper.**

TURKEYS.—First, J. Smith (Cambridge). **Second, Mrs. Dale (Pure Cambridge). Third, W. Wright, Fulbourn, Cambridgeshire. Highly Commended, J. Beasley, Brampton, Northampton (Cambridge); Mrs. Wolmerston (Cambridge). Commended, Lady E. Iham, (Copper-coloured); E. Lang, Poults. First, J. Smith (Cambridge). Second, Rev. T. L. Fellowes (Cambridge). Third, W. Wright. Highly Commended, Mrs.**

Arbuthnot (Algiers Imported). Commended, J. N. Beasley (Cambridge); Mrs. Arbuthnot (Norfolk).

PIGEONS.

TUMBLERS (Almond).—First, J. Ford, London. Second, J. Thackray, York. Third, F. Elze, Westbourne Grove, Bayswater, London. Highly Commended, J. E. Breward, Coventry; F. Crossley, Eiland, Yorkshire; F. T. Wiltshire, West Croydon. Very Highly Commended, R. Fulton, Deptford.

CARRIERS (Black).—Cocks.—First, R. Fulton. Second, Messrs. Siddons and Sons, Lichfield Road, Aston. Highly Commended, J. Firth, jun., Webster Hill, Dewsbury; M. Hedley, Red Hill, Surrey; T. Colley, Sheffield. Hens.—First, F. Crossley. Second, F. T. Wiltshire. Highly Commended, R. Fulton.

CARRIERS (Dun).—Cocks.—First, M. Hedley. Second, A. W. Shaw, Limerick, Ireland. Hens.—First, R. Fulton. Second, F. Elze. Highly Commended, J. Hawley, Bingley, Yorkshire.

CARRIERS (Any other colour).—First and Second, J. C. Ord, Pimlico, London.

POWTER (Red or Blue).—Cocks.—First, J. Thackray. Second, F. Crossley. Very Highly Commended, J. Thackray. Highly Commended, A. W. Shaw. Hens.—First, J. Thackray. Second, J. E. Harvey, M.D., Cork. Highly Commended, J. E. Harvey, M.D.; F. Crossley.

POWTERS (Any other colour).—Cock.—First, E. M. M. Royds (Black). Second, W. R. Rose, Cranley Hall, near Kettering (Yellow Pied). Very Highly Commended, J. E. Harvey, M.D., Cork (White); A. W. Shaw (White). Highly Commended, J. E. Breward, Coventry (White). Hens.—First, A. Heath (White). Second, W. R. Rose (White). Very Highly Commended, R. Fulton.

BALDS.—First, T. H. Ridpath, Rusholme, Manchester. Second, F. T. Wiltshire. Highly Commended, J. Fielding, jun., Rochdale.

BRANDS.—First, W. H. C. Oates, Beesthorpe, Newark, Notts. Second, J. Ford. Highly Commended, J. Percival, Peckham Rye, London. Commended, J. Fielding.

TUMBLERS (Mottled).—First, E. M. M. Royds. Second, R. Fulton, Deptford. Highly Commended, R. Fulton; S. Shaw.

TUMBLERS (Any other colour).—First and Second, J. Thackray (Red and Yellow). Very Highly Commended, J. Ford.

BOWTS.—First, H. Yardley. Second, T. D. Green, Saffron Walden, Essex. Third, E. M. M. Royds.

JACOBINS (Yellow).—First, T. H. Ridpath. Second, F. Wallt.

JACOBINS (Any other colour).—First, E. M. M. Royds (Black). Second, F. Wallt. Highly Commended, E. Horner, Harwood, Leeds.

PANTAILS (White).—First, M. Wicking, Blackheath Park, Kent. Second, J. Thackray. Very Highly Commended, H. E. Emberlin, Humberstone, Leicester. Highly Commended, F. Elze.

PANTAILS (Any other colour).—First, H. Yardley. Second, F. H. Paget, Birstall, Leicestershire. Highly Commended, J. W. Edge, Ashton Newtown, Birmingham (Blue). Commended, J. Bally, jun., Mount Street, London.

TRUMPETERS (Mottled).—First, S. Shaw. Second, J. Thackray. Very Highly Commended, W. H. C. Oates. Highly Commended, E. Horner.

TRUMPETERS (Any other colour).—First, S. Shaw. Second, W. H. C. Oates. Very Highly Commended, J. Thackray.

OWLS (Blue or Silver).—First and Second, J. Fielding, jun. Highly Commended, J. Bally, jun. Commended, St. J. Coventry, Wimborne, Dorsetshire (Powdered).

OWLS (Any other colour).—First and Second, J. Fielding, jun. (White). Nuns.—First, Rev. A. G. Brooke, Salop. Second, C. Bulpin, Riverside, Bridgewater, Somerset. Third, J. Thackray.

TURBANS (Red or Yellow).—First, S. Shaw. Second, E. Mapplebeck. Highly Commended, J. Thackray.

TURBANS (Any other colour).—First, M. Wicking, Kent (Silver). Second, C. Bulpin.

BARBS (Black).—First, J. Thackray. Second, M. Hedley. Very Highly Commended, S. Shaw.

BARBS (Any other colour).—First, J. Thackray. Second, M. Hedley. Very Highly Commended, J. Fielding, jun.

DRAGONS (Blue).—First, F. Crossley. Second, H. Yardley.

DRAGONS (Any other colour).—First, S. Shaw. Second, C. Bulpin. Highly Commended, C. Bulpin.

MASTERS.—First, H. E. Emberlin. Second, C. Bulpin. Highly Commended, J. Thackray.

ANTWERPS.—First, J. Hawley, Bingley, Yorkshire. Second, H. Yardley. Highly Commended, J. Mitchell, Moseley, Birmingham.

ARCHANGELS.—First, S. A. Taylor, Sutton Coldfield. Second, C. Bulpin. Highly Commended, D. Canser.

SWALLOW.—First and Second, F. H. Paget, Birstall, Leicestershire. Highly Commended, J. Bally, jun. (Imported).

ANY OTHER NEW OR DISTINCT VARIETIES.—First, J. Owens (Frillbacks). Second, J. Bally, jun. (German Toy). Third, F. H. Paget (Priests). Highly Commended, F. H. Paget (Frillbacks); J. Percival (Isabels). Commended, J. Bally, jun. (German Toy).

CHARACTERISTICS OF THE PRINCIPAL SORTS OF GAME FOWLS.

(Continued from page 416.)

THE best of the *Cheshire Piles* are still found in *Cheshire*, though they are now pretty well distributed everywhere. *Derbyshire* and *Leicestershire* both breed good *Cheshire Piles*. These are not quite so hard as some of the other sorts of Game fowls, but are a harder bird than the willow-legged *Black-breasted Reds*. The *Cheshire Pile* has not the endurance possessed by the *Dark Greys* and *Brown Reds*, and more especially by the *Dark Grey*. The *Pile* will not stand steel so well as these birds, and, therefore, generally loses in a long battle, though winning a short battle quicker than other Game fowls. *Piles* do not stand cutting or dubbing so well as the harder and darker-coloured birds.

The *Cheshire Piles* are lighter-fleshed and of a more active make than any other Game fowls. *Piles* are looser and softer in feather than the darker and harder sorts. *Pile* hens are very quarrelsome. The *Piles* are fierce birds, and are first-class for fighting, though inferior to the *Dark Greys* and *Brown Reds* in all but their extraordinary quickness and activity, in which qualities they stand first of all the Game fowls, though now almost given up by sportsmen on account of their want of endurance. The best of these *Piles* have now merged in the *Brown Reds*, having been much crossed with them to improve the quickness and activity of the *Brown Reds*, which will account for so many of the *Brown Reds* having white or light nails. These *Piles* were probably first bred in *Cheshire*, from the white-legged *Black-breasted Reds*, with red eyes, and *Partridge-coloured* hens, and crossed with other breeds.

BLACK-BREASTED REDS.—White legs, dark red eyes, with the light wheaten-coloured or Cinnamon-Buff hens. These are now the third favourite sort of sportsmen, standing next in favour to the *Dark Greys* and the *Brown Reds*, and before the *Cheshire Piles*, being stronger and possessing more endurance than the *Piles*, though slower and less fierce. They are not an exhibition sort, being purely a cock-fighter's bird, and are most found in the same districts and places as the *Brown Reds* and *Dark Greys*. There are some of them in all the large towns, they being chiefly favourites of the smaller innkeepers and butchers. These birds often beat the *Brown Reds*, though not so good in general; they are, however, a Game bird in all respects, and are, perhaps, the best of all the *Black-breasted Red* sorts. These and the *Dark Greys* and *Brown Reds* are now the only three sportsmen's sorts. The cocks are of a most beautiful red colour, but the hens are ugly; they are hard, close-feathered, and very good birds.

RED-BREASTED GINGER REDS.—Light *Partridge* hens of a ginger colour, red eyes, and white legs. These are now very rare, having merged in the *Brown Reds* by crossing; they were, if anything, a better bird than the preceding, being quicker and more fierce. They may now, however, be considered as nearly extinct, the darker colours having absorbed them.

DARK BLACK-BREASTED REDS.—Carp-brown legs, and dark red eyes, with fawn-breasted *Dark Brown* hens, not *Partridge-coloured*. These are good and hard birds, equal to the wheaten-coloured breed, which have the clean-hackled cocks, while these have the dark striped-hackled cocks. *Dark Black-breasted Reds* are now rather rare, but are still found in *Yorkshire*, and in *Staffordshire*, *Shropshire*, and *Worcestershire*; the hens often run much to spur. *Nantwich*, in *Cheshire*, has some of them, and has excellent *Brown Reds* too. *Black* and white-legged *Red Partridge* hens also breed good *Black-breasted Red* Game cocks in general.

RED DUNS.—Dark red eyes, white legs; hens cinnamon-buff colour, with blue dun breasts and tails. These birds, as I have heard, were once great favourites at *Newcastle-on-Tyne*, *Sunderland*, and in the adjacent northern districts; they are a good, hard-feathered bird, light in flesh, and active, and have been much crossed with the *Brown Reds*, which cross makes the *Smoky Red Duns*, and gives the white leg a dark shade. *Red Duns* are not common now, many of them having merged in the *Brown Reds* by crossing with them.—*NEWMARKET*.

THE OAKHAM EXHIBITION OF POULTRY AND PIGEONS.

THIS Show was unusually good, far surpassing most local meetings. The arrangements, taking into consideration the space at command, were excellent, and the Society is undoubtedly much indebted to their indefatigable Secretary, Mr. Wellington, for so satisfactory a result.

The *Dorking* classes were generally most praiseworthy, and many of the *Buff Cochins* were also very excellent. It was, however, in respect to the poultry more generally kept by agriculturists that the *Oakham Show* was most worthy of note. A remarkable feature of the Show may be mentioned—namely, that the first and second prize pens of *Rouen Ducks*, and the first and second prize *Aylesbury*, weighed all four pens precisely alike—viz., 19 lbs. a pen of three birds. Young *Geese* of 45 lbs. weight were shown, and *Turkeys* (also of 1866) weighing 49 lbs. the three, were exhibited; whilst even single cock *Turkeys* of any age weighed from 24 to even 28 lbs. throughout a very well-filled class.

The exhibition of *Pigeons* was remarkably good, indeed beyond general expectation, and the competition such as is rarely surpassed even at the greatest of our columbarian shows. The *Extra class* for *Pigeons* contained extraordinarily good specimens, and although many of the *Pigeons'* pens were unavoidably placed too high from the ground

to be viewed to advantage, this part of the Exhibition proved a leading feature, and the competition in most of the classes was exceedingly good. No doubt in future years a fresh arrangement may be made, bringing all pens closely on a level, as this will not only improve the general appearance of the Exhibition, but is essential to the proper awarding of the Society's premiums.

The day was most propitious, and the attendance was very good.

DORKINGS (Coloured).—First, J. Longland, Grendon, Northampton. Second, J. Smith, Breder Hills, Grantham. Third, Countess of Gainsborough, Exton Park. Highly Commended, Marchioness of Exeter, Burghley House. Commended, W. Turner, Sleaford. *Chickens.*—First and Extra Prize, H. Warner, The Elms, Loughborough. Second, J. Longland. Third, R. Wood, Clapton, Thrapston. Highly Commended, Marchioness of Exeter; Mrs. A. Guy, Eaton, Grantham; H. L. Bradshaw, Wakerley; W. T. Everard, Alton Grange, Ashby-de-la-Zouch. Commended, Countess of Gainsborough.

DORKINGS (White).—First, Mrs. Syson, Empingham, Stamford. Second, Marchioness of Exeter. *Chickens.*—First and Second, Mrs. Syson. Highly Commended, Marchioness of Exeter.

DORKING (Any colour).—*Hens.*—Prize and Extra Prize, J. Smith. Highly Commended, G. H. Finch, Barley-on-the-Hill; J. M. Wellington, Oakham; J. Longland; Countess of Gainsborough. *Pullets.*—Prize, J. Longland. Highly Commended, R. Wood; Mrs. A. Guy; Marchioness of Exeter. Commended, C. Speed, Exton, Oakham.

SPANISH.—First and Second, J. Wright, Sysonby, Melton. Commended, C. Wright, Northampton. *Chickens.*—First, J. Wright. Second, W. T. Everard.

COCHIN-CHINA (White and Black).—First, Rev. R. H. Montgomery, Northampton. Second, Rev. C. H. Lucas, Edithweston Rectory. Highly Commended, Rev. C. H. Lucas. Commended, Rev. R. H. Montgomery.

COCHIN-CHINA (Cinnamon, Buff, or Partridge).—First, H. Warner. Second, G. H. Finch. Highly Commended, J. M. Wellington. Commended Mrs. Rooke, Weldon Grange, Wansford; J. Barker, Kettering.

COCHIN-CHINA.—*Pullets.*—Prize, Marchioness of Exeter. Highly Commended, J. M. Wellington; W. Kirk, Wymondham, Oakham. Commended, H. Warner.

BAHAMA POOTRA (Any colour).—First, Withheld. Second, H. E. Emberlin, Humberstone.

HAMBURGH (Silver-spangled).—First, A. Houghton, Asfordby. Second, H. Warner. Highly Commended, A. Houghton.

HAMBURGH (Silver-pencilled).—First and Second, A. Houghton.

HAMBURGH (Gold-spangled).—First, H. E. Emberlin. Second, J. Wright. Highly Commended, H. E. Emberlin.

HAMBURGH (Gold-pencilled).—First, Rev. C. H. Lucas. Second, A. Houghton. Commended, H. Warner.

GAME (White, Pile, and Light Colours).—First, W. T. Everard. Second, S. Deacon, Polebrook Hall, Oundle. Commended, Mrs. A. Guy.

GAME (Red and other Dark Colours).—First, J. Smith. Second, W. T. Everard. Highly Commended, H. Warner; J. Warner.

GAME HENS OR PULLETS (Any colour).—First, H. Warner. Second, W. Robinson, Preston.

BANTAMS (White, Clean Legs).—First, H. Draycott, Humberstone. Second, H. E. Emberlin. Commended, H. E. Emberlin; H. Draycott.

BANTAMS (Black, Clean Legs).—First and Second, H. Draycott.

BANTAMS (Gold-laced).—First, J. Smith. Second, H. Draycott.

GAME BANTAMS (Any colour).—First, withheld. Second, J. Smith.

Pullets.—Prize, J. M. Wellington. Equal extra prize, H. Draycott.

BANTAMS (Any other variety).—First and Second, H. C. Woodcock, Rearsby (Japanese Bantams).

CROSS-BRED CHICKENS.—First, Mrs. Lucas. Second, Mrs. E. Lucas, Weston Hall. Third and Fourth, T. Tatham, Kingsthorpe. Highly Commended, C. Chapman. Commended, J. M. Wellington.

ANY OTHER DISTINCT VARIETY.—First, Lady Hazlelrigg, Noseley Hall (White Silkies). Second, Hon. Mrs. G. Noel, Barleythorpe (Crève Coeurs). Highly Commended, Hon. Mrs. G. Noel (Crève Coeurs); M. Kew, Market Overton (Crests). Commended, G. Turner, Alexton Hall (Chittagong).

GUINEA FOWLS (Any colour).—First, Mrs. Berridge, Barley-on-the-Hill. Second, G. R. Pearson, South Witham. Highly Commended, W. Kirk.

TURKEYS (Any colour).—First, Mrs. A. Guy, Eaton, Grantham. Second, W. Kirk. *Cock.*—First, J. Smith. Second, G. R. Pearson. Highly Commended, Marchioness of Exeter; Mrs. A. Guy. Commended, W. Kirk; Countess of Gainsborough. *Hens.*—Prize, J. Smith. *Pullets.*—Prize, J. Smith. Highly Commended, Mrs. A. Guy. Commended, G. R. Pearson.

DUCKS (White Aylesbury).—First, W. Carver, Ingarsby, Leicester. Second, H. E. Emberlin. Highly Commended, Marchioness of Exeter.

DUCKINGS.—First and Second, W. Carver. Highly Commended, Marchioness of Exeter.

DUCKS (Rouen).—First, A. Houghton, Melton. Second, J. Wright. Highly Commended, H. Warner.

DUCKS (Any other breed).—First, S. Deacon, Polebrook Hall. Second, R. Garfoot, Cottesmore. Commended, Rev. C. H. Lucas.

GESENE (White).—Prize, J. Clarke, Bruntingthorpe. *Goosings.*—First, H. Bartwelliffe. Second, J. Clarke. Highly Commended, Mrs. Berridge.

GESENE (Grey or Mottled).—First, W. Kirk. Second, withheld. *Goosings.*—First, J. Smith. Second, W. Kirk.

SINGLE COCKS.

DORKING (Any colour).—First, J. Smith. Second, R. Wood. Highly Commended, Countess of Gainsborough; Rev. C. H. Lucas; Lady Hazelrigg; J. Longland.

SPANISH.—First, J. Wright. Second, Rev. W. J. Mellor, Colwick Rectory. **COCHIN-CHINA.**—Prize and Silver Cup, H. Warner. Highly Commended, R. Griffin, Barkby, Leicester; M. Kew, Market Overton; Mrs. A. Williamson, Queensborough Hall.

GAME.—First and Extra Prize, W. Robinson. Second, J. Smith. Highly Commended, H. Warner.

BANTAM (Any colour).—Prize, T. Whittaker, Melton.

PIGEONS.

TUMBLERS.—First, G. Sturgess, Leicester. Second, T. Baker, Leicester. Highly Commended, G. Sturgess; W. T. Baker. Commended, W. F. Hollis, Cottesmore; H. L. Bradshaw, Wakerley; M. Kew, Market Overton.

CARRIERS.—First, G. Sturgess. Second, T. Whittaker. Very Highly Commended, A. Storrar, Peterborough. Highly Commended, T. Whittaker.

ker; T. C. Marshall, Peterborough; R. Shilcock, jun., South Witham. Commended, G. Sturgess.

POWTERS.—First, J. Taylor, Newark. Second, — Packwood, Leicester. Highly Commended, T. Baker; H. E. Emberlin; — Packwood; R. Payling, Peterborough. Commended, T. Baker; H. Draycott; Rev. W. J. Mellor.

JACOBINS.—First and Second, G. Sturgess. Highly Commended, M. Kew.

FANTAILS.—First, F. H. Paget, Birstall, Leicester. Second, H. Draycott. Highly Commended, G. Sturgess; H. Draycott; J. Wright; J. Taylor.

TRUMPETERS.—First, G. Sturgess. Second, F. H. Paget. Commended, G. Sturgess; Rev. W. J. Mellor.

NUNS.—First and Second, H. Draycott.

TURBITS.—First and Second, H. E. Emberlin. Highly Commended, G. Sturgess; H. Draycott; Rev. W. J. Mellor; H. E. Emberlin; R. Payling.

BLUE ROCK.—First, W. Sharrad, Langham. Second, Mrs. Berridge. Commended, W. Sharrad.

ANY OTHER NEW OR DISTINCT VARIETY.—First and Second, F. H. Paget (Priests and Swallows). Highly Commended, G. Sturgess (Barbs and Owls); M. Kew (Silver Owls); T. Baker, Leicester (Hyacinths); H. E. Emberlin (Magpies and Dragons). Commended, W. B. Packwood (Black Barbs).

The Judge was Edward Hewitt, Esq., of Eden Cottage, Sparkbrook, Birmingham.

NEW SHOREHAM POULTRY SHOW.

It is painful to me to draw attention to neglect on the part of the officials of any poultry show; I would much rather bear testimony to the care they have taken of the specimens committed to their charge; but at the same time I think where gross neglect is allowed it ought to be made public. I sent a pen of birds to the late South of England Show at New Shoreham, a distance of about two hundred miles. They were in first-rate condition when they left me; but, alas! when I received them again in the middle of Sunday (the Show having closed on the previous Thursday evening), they were complete skeletons, and were altogether in such a sorry plight that my brother at first declared that the pullet had been changed. The delay may have been caused by the negligence of the railway officials, but that alone could not have brought them down to what they were. Nor is this a solitary instance. A friend of mine, who also sent a pen of fowls, received them back on the Saturday morning after the Show, and I never in my life saw a cock returned in such a disgraceful state. Bad as my birds were on the Sunday, this was far worse; in fact it appeared quite a chance whether he would live or die, and the pullet, too, is in a most disgraceful state. When any of them will be fit to show again I know not. I shall certainly take good care to avoid the South of England for the future.—EXHIBITOR.

POULTRY PROFITABLE.

At the dinner of the Hadleigh Farmers' Club, held on the 16th of November, after their annual exhibition of roots, poultry, &c., the Chairman (Mr. J. Band), said they all knew the value of a good fowl, and he believed that many people were of opinion that there was no better paying runner on a farm than a chicken. Mr. Postans had been very successful with his fowls that day, and he should like to hear whether he found it a good paying business, and whether one breed paid better than another.

Mr. Postans said, as far as the paying went, keeping fowls was certainly remunerative where a person was careful to select a stock that was really first-class. Anything ordinary was not worth having, because they cost just as much to keep as the best, and first-class fowls would always fetch high prices.

HYBRIDISATION.

In accordance with the request expressed by Mr. West, at page 399, respecting the comparative influence of drones and queens on the colour of the progeny, more particularly as regards those cases in which black queens are the mother bees, crossed by Ligurian drones, I gladly give the results of some little experience which it was my fortune to have.

In the year 1861, not long after the introduction of Ligurians into this neighbourhood, Mr. Woodbury, when driving out the bees of some common stocks kept at the distance of about two miles and a half from any Ligurian hives, noticed that in a second swarm of the same season several of the workers were distinctly marked Italians. This being at that time rather a new and startling feature in apian science, Mr. Woodbury saved the life of the queen, which he gave to me, with the hope that

I would establish her at the head of a stock to see whether she would continue for any length of time to breed yellow-headed bees. Fixing on a weak stock, I drove out the bees, captured and destroyed its queen, cut out and fixed the best of the combs in frames, adding two sealed brood combs from another hive, inserted between the combs the cage containing the imprisoned monarch, and returned the bees. On the following day the queen was liberated, being well received by her new subjects, and the first appearance of her progeny was awaited. In due time the young bees appeared, the majority of them being very well marked. As the original black bees died out, the preponderance became for some time greatly in favour of the yellow-headed bees. The stock prospered remarkably well, and the queen proved to be a very prolific breeder; but, contrary to Mr. West's hypothesis, the coloured bees gradually diminished, and although until the end of the hive's existence there were always some to be seen, yet, to a casual observer, it would have appeared to have been a colony of ordinary common bees. The drones were unmistakably black, and, as may be supposed, exhibited no taint of Ligurian parentage.

In all observations of this character there must be a certain amount of uncertainty as to the correctness of the inferences which may be drawn from them. A queen may become changed by death or by unnoticed swarming: in my case, supposing this did happen, the young successor might be crossed by one of my own Ligurian drones, of which there were large numbers close at hand, so that it would be impossible to state positively that the queen which was originally placed at the head of the stock remained alive at the end of two years when the stock was broken up. Although I do not believe that anything of this nature did really occur, and although I have no reason to doubt but that the same queen reigned until the end of the hive's existence, yet taking the possibility of my having been mistaken into consideration, I am loth to assert as a positive fact that the influence of the drone, so far from increasing in amount as the queen becomes more aged, does really and truly become gradually more feeble. I merely give the case as it occurred in my own apiary for as much as it may be worth.—S. BEVAN FOX, *Exeter*.

THE EGYPTIAN BEE.

(Continued from page 417.)

HAVING detailed particulars I must now revert to the period when I abstracted combs from the Egyptian stock. It was then that the true character of my foreign friends manifested itself in right earnest. Decidedly more irascible! Comparisons must be laid aside. Their fury and ferocity were beyond all parallel. "*Nemo me impune lacessit*," the motto which I have since presented them with, and which now holds a permanent place in their family escutcheon, was but too forcibly exemplified. Panoplied though I was from head to foot, I was never before so beset. Smarting under the bad usage received in their journey from Exeter, and by my subsequent manipulations, they were determined, apparently, to resist all future intermeddling with "their nest," and so I had a literal swarm about my ears, stinging everything and anything they fancied vulnerable about the person. My retreat was almost as difficult as Napoleon's from the Russian hordes that pursued him from Moscow; but the enemy, though repulsed, had contrived to escape, and satisfaction was incomplete. Exploring parties scoured the ground all around, to the evident danger of the lieges and my great discomfort. A friend residing with me at the time, himself an apiarian of considerable experience, acknowledged he had never witnessed such a fracas. He, too, was followed to some distance, and had to lie in ambush for a long time ere his relentless persecutors permitted him to leave; and the cover under which I myself took shelter was long after haunted by these vindictive little foreigners. Meantime a family council was held to consider what was best to be done. My friend urged an immediate removal. I was in a difficulty; but the bees had been sadly irritated and abused, and I pleaded a day or two's delay. Fortunately the clear Indian-like sky, from which a burning sun had shot his cloudless rays for some days previous, had become gloomy and overcast. My incensed little foreigners now assumed a somewhat more subdued and pacified aspect. The regimental files hitherto guarding the entrance, heads outwards, and with daggers half drawn, gradually retired. So, early on the morning of the 26th of June, while the guards were caught napping, I took their citadel by storm, deprived it of all its treasures, and trans-

ferred the captive population to a new dwelling, as already stated, and so after all the Egyptians have remained in my apiary up to the present time. Since then, or, rather, since the manipulations have ceased, the foreigners are behaving themselves like their more civilised brethren of the north. I now know their temper and habits better, and we are better friends. There is only one stipulation which I must observe—I must not interfere upon any account with their "nest." This I am willing to do, and the "*Nemo me impune lacessit*" emblazoned on their escutcheon always reminds me of the pactio, and thus peace is maintained.

I would not have it to be inferred from what has been said that Apis fasciata cannot be kept in the apiary without inconvenience and danger. Mr. Woodbury has stated, and my experience confirms the remark, that if the "bees are not meddled with they are peaceable enough." For experimental purposes they are certainly very difficult to deal with, and when interfered with in any way they must be very gently and cautiously handled. It was only yesterday that I opened three leaves of the Huber hive, in which the colony is now domiciled, to examine the interior, and though perfectly unprotected, so gently did I deal with them that no resentment was shown.

At this moment the Egyptian colony is without exception the most populous in my apiary. The maturing brood is still plentiful, young drones have again appeared, and during the recent very mild weather farina loads, forty a-minute, were being carried with the utmost vigour, while other hives are half dormant. Can it be that the instinct of the queen is at fault?—or, rather, that it is true to her native soil, where the spring is our winter. Be this as it may, the appearance of drones at the end of October is a perfect anomaly with me. I have observed, however, that the young larvae are now being dragged out.

Of the respective progenies of the young Egyptian queens, those of two only were similar to the parent, though these, too, differed a shade. The bees produced by the others were of a varied and motley character—some Egypto-Italians, and some of a light leaden colour, forming a variety *sui generis*.

Most of the queens, too, differed somewhat from the original. In appearance they more nearly approximated to the better-coloured Italians, though more beautiful and gay. Two or three were especial beauties, and sparkled among the black population like gems of gold.

I regret that I cannot speak as to their honey-gathering qualities, the autumn being so bad. The original hive of course I did not send to the heath, and the young hives afforded no test, as the Egyptian element formed but a small proportion of the population. The bee is exceedingly industrious; is not affected in the least, apparently, by our northern climate, and I expect no more difficulty in wintering the Egyptians than the other varieties.—J. LOWE.

OUR LETTER BOX.

HAMBURG FOWLS.—Mr. J. R. Beyton wishes to know whether the eight hens mentioned by "S. G. J." have no run attached to their houses 12 feet by 6 feet. The oats enclosed by Mr. Beyton are ground, not crushed. In such a state they must be mixed with water. Crushed oats are merely flattened by the rollers of the mill they are passed through, and can be given to the fowls unmixed.

HOUDANS (Bath).—We do not know what you can desire more than is stated in the "Poultry-Keepers' Manual." The nearer the fowls approach to coincidence with the description and drawings there given, the better your chance of winning. To disqualify any fowl there must be an absence or defect in some of its most prominent characteristics, such as the peculiar comb and top-knot of the Houdan. Your garden will do very well for Houdans, especially if there is a shed of some kind under which they can retire, find shelter, and a dry sand-bath in all weathers.

IPSWICH POULTRY SHOW (An Exhibitior).—There may be many reasons why the Judges withheld the second prize for Crève Cœurs at the above Show, although there was the same pen that was commended at Chelmsford shown. The birds may not have been in good condition, or the Judges at Ipswich may have a higher standard of excellence than the Judges at Chelmsford.

BELGIAN COCK CANARY (M. P.).—You must apply to some of the dealers in Canaries, for you alone can determine what you like, both as to appearance and price.

POULTRY MARKET.—DECEMBER 3.

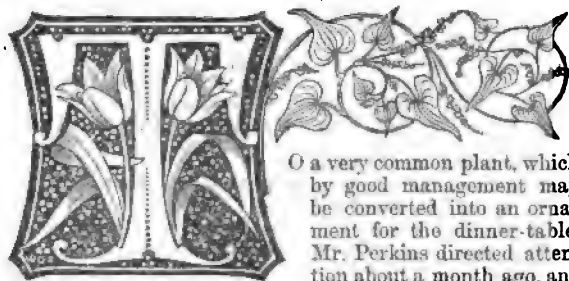
	s	d.		s	d.		s	d.		s	d.
Large Fowls.....	2	6	to	5	0	Pheasants.....	2	8	to	2	6
Smaller do.....	2	0	to	2	6	Partridges.....	1	6	to	1	9
Chickens.....	1	6	to	1	9	Grouse.....	1	9	to	2	0
Geese.....	5	6	to	6	0	Hares.....	2	6	to	2	8
Ducks.....	1	9	to	2	0	Rabbits.....	1	4	to	1	9
Pigeons.....	0	8	to	0	9	Wild do.....	0	8	to	0	9

WEEKLY CALENDAR.

Day of Month.	Day of Week.	DECEMBER 10-17, 1893.	Average Temperature near London.			Rain in last 49 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.			
11	Tu	<i>Correa glauca.</i>	46.0	33.9	39.5	16	58	af 7	49	af 8	29	af 10	11	af 8	4	6	82
12	W	<i>Oytisus.</i>	46.0	33.8	39.6	17	59	7	49	8	1	11	15	9	5	6	83
13	Th	<i>Genistas.</i>	46.7	33.5	39.8	22	0	8	49	8	29	11	32	10	6	5	86
14	F	<i>Epacris.</i>	46.1	33.6	39.8	19	1	8	49	8	58	11	31	11	7	5	7
15	S	<i>Erica vestita.</i>	46.0	34.6	40.3	16	2	8	49	8	after.	morn.	)			4	38
16	SUN	8 SUNDAY IN ADVENT.	45.5	34.0	39.7	18	3	8	49	8	48	0	42	0	8	4	9
17	M	<i>Erica coccinea.</i>	45.6	33.2	39.4	18	4	8	49	8	16	1	56	1	9	3	40

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 46.6°; and its night temperature 33.4°. The greatest heat was 63°, on the 13th, 1841; and the lowest cold 18°, on the 15th, 1843. The greatest fall of rain was 1.24 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

FRUIT-BEARING PLANTS FOR DINNER-TABLE DECORATION.



O a very common plant, which by good management may be converted into an ornament for the dinner-table, Mr. Perkins directed attention about a month ago, and

he deserves our best thanks for the information which he has afforded on the subject, for the demand for plants suitable for the purpose is so great at the present day that we have to press into our service all which can be rendered available. If, however, Mr. Perkins can make such an unpromising plant as the *Pyracantha* (*Cratægus pyracantha*), a fit and proper object for such close inspection as that which it must undergo at the dinner-table, we may certainly obtain the assistance of many other plants generally grown; and, since reading Mr. Perkins's letter, I have asked myself whether other berry-bearing shrubs common amongst us cannot be rendered available. Last winter, we all know, the advertising pages of gardening periodicals set forth the merits of the *Aucuba* as a plant for dinner-table decoration, and some examples of it which were exhibited proved its value for the purpose; but, common as the *Aucuba* is amongst us, the means of having it in fruit are not yet within the reach of all, so that we must look elsewhere for plants which can be obtained in abundance, and amongst such let us see what are likely to be available. I regret that at this place some common plants have not been thought of sooner, but the names of a few that appear likely to be worked into use will be given at the end of this communication; and if correspondents who may have employed them will report their success, or can suggest others for trial, the information would be valuable.

I will now give a list of the fruit-bearing plants which are in use here, although I confess it is but a meagre one.

PERNETTYA MUCRONATA.—Unfortunately this plant does not thrive very well with us in a mass, and I have never seen it in the same healthy condition as other hardy shrubs. Its berries, rich enough in appearance by daylight, are not so effective at night, otherwise the dwarf habit of the plant, its profusion of foliage, and its usually free production of fruit, would render it a general favourite. For some years, however, we have abandoned it, because we have not the means of growing it out of doors so well as it ought to be, and there it produces fruit best.

SKIMMIA JAPONICA has only one fault—it is often rather naked of foliage in the centre, otherwise its free bearing and the beautiful coral-like colour of its clusters of fruit, hanging, as they do, for months without change, entitle it

to the first place amongst dinner-table plants of the fruit-bearing class.

ORANGE TREES.—Like the preceding, the small-leaved and small-fruited kinds are often scantily furnished with foliage, but when in good order nothing can really be more handsome.

SOLANUM CAPSICASTRUM and a taller species are both good, and deserve attention everywhere, for they do good service for many months without a change.

RIVINA HUMILIS requires stove heat, but its numerous clusters of small red berries, with a continuous succession of blossom foretelling after-crops, give the plant an interesting appearance. It fruits more abundantly when of a large size, and some plants of it growing against the back wall of a stove are very rich in appearance. It is also a good plant for the table.

CAPRICUMS.—Some of these are by no means to be despised, and when loaded with ripe fruit look well. The tall one with yellow fruit is best adapted for the plant-shelf, and it can seldom be had in such good condition as the red-fruited kinds.

ARDISIA CRENULATA.—A well-known stove plant with berries rivalling those of the Holly. It is too well known and too generally admired to require further mention here.

We now come to hardy berry-bearing plants or shrubs, which, though not often met with of the small size suitable for the dinner-table, may nevertheless by skilful management, like that which Mr. Perkins has brought to bear on the *Pyracantha*, be made to do good service, as the fruit they bear are highly ornamental, and in most cases the foliage is so likewise. Dwarfing them to the condition of potted plants will doubtless bring them to the shape and size desired.

PORTUGAL LAUREL.—The beautiful strings of rich-coloured berries would grace a table if the plant could be induced to assume a dwarf condition, and bear fruit when of that size. I may remark that this plant succeeds better in a very stiff soil than in one of an opposite nature, although good examples are met with in soils of the latter description. Its glossy leaves would also be an acquisition.

EUGENIA UENI.—Barely fruitful enough to be attractive, and the colour of the fruit is not so good as in some other plants; but when the fruit is ripe it has the merit of being of the highest flavour, and the plant might, therefore, be countenanced at table; its foliage as well as habit is good, but very small plants seldom fruit abundantly enough to meet the requirements of all cases.

ARBUTUS.—Nothing looks richer than this when loaded with fruit, and its clusters of bell-shaped flowers are also attractive. I am sometimes half tempted to make use of a nice upright-growing branch as a substitute for a plant, but have resisted the temptation. It fruits best on a stiff soil, on a very light one its fruit is only indifferent.

COTONEASTER.—Could not the best berry-bearing species be enlisted into the household service? *C. Simmonsii*, which bears such beautiful berries in winter, loses much of its foliage then, and *C. frigida* is, I think, too large in the leaf. We must, therefore, resort to some of the microphylla class. The rose-coloured berries look rich against a stone

wall, and would be equally acceptable if plentifully produced over a uniformly well-grown plant in a small pot.

HOLLY needs no comment; but whether small-grown plants or branches of larger ones are more fitting ornaments at Christmas is a matter upon which I am unable to give an opinion.

PRUNUS.—Too common and vulgar, I expect some will say. Well, if so, reject it; but I know of nothing so rich as its clusters of black fruit in the autumn, and being borne at the extremities of the shoots, they show to great advantage. I think this would be the most likely of all plants to bear the dwarfing necessary to pot-culture, and it is certainly worth trying.

BUTCHER'S BROOM.—More coarse than the last, and less productive of fruit, excepting in places favourable to its growth. I merely throw out the suggestion that it may be useful, but have less hope of it than of most of the others.

HAWTHORN.—There are many beautiful kinds, but I fear none adapted to the purpose, as they usually shed their leaves about the time the fruit ripens, and, consequently, are not suitable for decorative purposes.

AUCUBAS have been alluded to in the early part of this article. Their merit is unquestionably of the highest order.

ORNITHOGALUS PYRACANTHA, enlisted by Mr. Perkins, than whom it would be difficult to find one more likely to give a good account of the forces under his command.

BERRERIS.—Only ornamental as flowering plants; although they fruit freely enough, yet the fruit does not remain fresh and showy for any length of time. *B. Wallichii* and *Darwinii* are both handsome plants.

Besides the above, there are doubtless other fruit-bearing shrubs or plants which could be made available, but the number of such fall short of the long array of those remarkable for their foliage. In fact, plants for table may be classified under three divisions:—Flowering plants, plants of remarkable foliage, and those ornamental by reason of their fruit. The present communication is more especially directed to the third. I should like to learn the opinion of other writers on the first two sections; and I will at a future time return to the subject, and probably follow out the ornamentation of the dinner-table in another direction. There is evidently ample scope for much improvement, and those who, like Mr. Perkins, wisely take the counsel of their better halves, have more than a double advantage over all the inventive genius of bachelorhood.—J. ROSSON.

DESCRIPTIVE LIST OF GLADIOLI.

In accordance with my promise I now give, from notes made in my own garden at the time of blooming, the description of some of the best French and English Gladioli. There are some which are so well known that I do not think it needful to describe them, and those that I should decidedly reject I shall leave out altogether. I will first take the more expensive varieties, the bulbs of which cost from three to nine francs a-piece abroad, or from 4s. to 10s. here. I would premise that I hold in this, as in all florists' flowers, form to be the first point, colour second, size and general appearance third. It is of no use having a brilliantly coloured flower if the petals be narrow and pointed; nor, again, is the best-shaped and well-coloured flower of much use if only two or three blooms on a spike open at a time. I need not say that winged flowers—i.e., flowers having the oppositiflorous blood in them, and presenting no good front to view, are worthless. The best are those in which the flowers all face one way, and are placed alternately on the spike. Of these Meyerbeer may be considered a good illustration. Next come those having the flowers placed in two rows, but still in front—as in *Achille*; and lastly those winged flowers which we must soon discard *in toto*.

I commence with *Souchet's* varieties sent out last autumn. 1. *Maréchal Vaillant*.—I regret that I was unable to procure a bulb of this last autumn; but Mr. Jones, Lord Leonfield's experienced gardener, who bloomed it, tells me that it well deserves its character. The flowers are large, well-shaped, brilliant scarlet, with very large white spot.

2. *Lord Byron*.—Fine showy-looking flower, but badly shaped, with pointed petals. The set-on of the flowers partakes of the character of *Achille*, from which, indeed, I should imagine it to have been raised.

3. *Eurydice*.—Fine spike; white, beautifully flamed with crimson purple feathers on a yellowish ground. Sometimes undistinguishable from that fine flower of Mr. Standish's, *Eleanor Norman*.

4. *Shakespeare*.—A noble flower. Spike long; flowers well-shaped, white, flamed with light rosy cerise, purple throat, and large purplish crimson feather on the lower lip.

5. *Milton*.—Fine spike; flowers very large, of excellent shape, creamy white tinted with rose, and deeply flamed with red.

6. *Newton*.—Flowers large, well shaped, white, with rosy crimson flakes, deeply lined with white.

These constitute the varieties of last autumn. Of older flowers there are—

7. *Prince of Wales*.—Very dark crimson, brilliant flowers, with violet stripes and shading, white midrib to side petals. Spike very long; flowers not very large, and opening together well.

8. *Dr. Lindley*.—Light peach ground, flamed and striped with rosy carmine, especially on the edge of the petals.

9. *Meyerbeer*.—Magnificent spike. Very vigorous grower, and flowering very freely. Brilliant orange scarlet, with bright crimson feather.

10. *Madame Furtado*.—Delicate rose ground colour, passes into flesh colour, flamed with rose cerise. A beautifully shaped and very effective flower.

11. *Charles Dickens*.—Tender rose tinted with salmon rose, flamed and striped with rosy carmine.

12. *Madame Vilmorin*.—Rose with white centre, shaded with lively rose, with carmine feathers on a white ground.

13. *Edulia*.—White, with deep violet spots. Not a large spike, but effective.

I now take those of a lower price.

14. *Fulton*.—Vermilion red, with purple feathers; *spiga* good; colour fine, with purple spot.

15. *Rubens*.—A large well-formed flower, light scarlet, violet feather; spike long. Flowers not quite *en face*.

16. *Flore*.—White, with deep rosy crimson spot in the side lower petals; petals generally flaked and striped.

17. *La Quintinie*.—Salmon rose or orange. Fine flower, with a violet shade at times.

18. *Madame Eugène Verdier*.—Crimson scarlet, somewhat of the same shade of colour as *Brenchleyensis*.

19. *De Candolle*.—Fine spike; clear bright cerise, flaked with crimson; bright violet feather on lower petals.

20. *Mess. Lebrun d'Albanne*.—Very brilliant rosy carmine, with violet feather.

21. *James Carter*.—Plant dwarf; spike not very long; orange scarlet, white spot in lower petals; shape good.

22. *Belle Gabrielle*.—Fine spike; very bright lilac rose, lightly flamed with a deeper shade of rose.

23. *Lenné*.—Orange cerise; large yellowish white blotch.

24. *Stuart Low*.—Violet rose, spotted and flamed with a deeper shade on a white ground. A good flower.

25. *Stephenson*.—A pretty shade of carmine cerise. Flower well formed; good spike.

26. *Impératrice Eugénie*.—White, flamed with violet rose. This variety always seems to me muddy, though so highly praised.

27. *Mad. de Stigné*.—Cerise rose, spotted and striped with white. Very pretty.

28. *Walter Scott*.—Very lively rose; white throat, striped with rosy carmine.

Of still cheaper but good varieties there are—

<i>Achille</i>	<i>Reine Victoria</i>	<i>Vesta</i>
<i>Céres</i>	<i>Eldorado</i>	<i>Mac Mahon</i>
<i>Comte de Morny</i>	<i>John Bull</i>	<i>Madame de Vetry</i>
<i>Diane</i>	<i>Le Poussin</i>	<i>Marie Dumortier</i>
<i>Duc de Malakoff</i>	<i>Lord Raglan</i>	<i>Marie</i>
<i>Napoleon III.</i>	<i>Peter Lawson</i>	<i>Prime</i>

MR. STANDISH'S VARIETIES.

Ensign.—Magnificent spike; clear bright scarlet; very closely and regularly placed.

Mrs. Dombrain.—Lilac rose, with deeper stripes. Somewhat like *Madame Furtado*.

Eleanor Norman.—Large flower, shape excellent; spike good; colour very like *Eurydice*, but on the whole I prefer it.

Basil.—Beautiful carmine, pencilled with a deeper shade; white centre, and deep crimson blotch.

Carminata.—Light carmine; flower large; shape good.

Lemonade.—Lemon, shaded with carmine; petals striped with the same.

Lord Shaftesbury.—Pale flesh colour, striped with pink; pink feathers. A very showy flower.

Prime Minister.—Scarlet, with a deep violet throat; a fine spike.

Samuel Weymouth.—Brilliant scarlet, with a yellow throat. Very fine.

Sir James Clark.—Salmon; fine carmine throat on a yellowish ground. A very fine variety.

The Colonel.—Dark scarlet; good shape, and fine spike; white throat.

There are many other good varieties of Mr. Standish's, but these have flowered well with me this year.—D., Deal.

MARÉCHAL NIEL ROSE, AND CAPTAIN COOK STRAWBERRY.

SINCE writing a reply to Lady King's two questions I have received six fine specimens of *Maréchal Niel Rose* from Mr. Keynes. Three of them measure from the point of union 50 inches each, and the six plants average 44 inches. They are on short briars. I have also planted a fine specimen of *Isabella Gray* on its own roots. I shall now see which is better, the mother or the son.

As "*ECOLA*" wishes for information about Captain Cook Strawberry, I am willing to impart what I know about it. There is only one Captain Cook. It was raised by the late Mr. Nicholson, of Eggescliffe, Yorkshire. He kindly sent it to me with other Strawberries, including two that I shall still retain—namely, *Scarlet Pine*, flavour *hors ligne*, and *Wonderful*, which is a great cropper and very good. Captain Cook is a hardy plant and great cropper, but as its flavour was inferior I rejected it. It was inferior to the eight which I named for market purposes—namely, *Sir J. Paxton*, *Eclipse*, *Rivers's Elisa*, *Empress Eugénie*, *Wonderful*, *Dr. Hogg*, *Cockscomb*, and *Frogmore Late Pine*. Once more I advise market gardeners to select from the above. They are sure cards. They are not likely to have chalky ground. The *Frogmore Pine* does not do so well on chalky ground, unless there is a strong admixture of clay with the chalk, which is what we call "white land," and is the best land in the world when the chalk and clay are half and half. There are but two patches of "white land" in the county of Dorset. I never saw a failing crop of any kind on such land.

There are other Strawberries, foreign and English, superior in flavour and as good croppers as Captain Cook—namely, *Alice Maude*, *Marquise de la Tour Maubourg*, *Marguerite*, *Bonté de St. Julien*, a very good Strawberry, and *Ne Plus Ultra* (*De Jonghe*), a large sort and a very heavy cropper. These four are the firmest for travel, and bear large fruit and heavy crops—*Wonderful*, *Dr. Hogg*, *Cockscomb*, and *Frogmore Late Pine*: their flavour is excellent.—W. F. RADCLIFFE, *Okeford Fitzpaine*.

ORCHARD-HOUSES IN LANCASHIRE.

IN your Journal of November 20th, at page 389, I read an account of the great success a lady has achieved in orchard-house cultivation from the pen of the Rev. T. C. Bréhaut, who, after enumerating the different sorts of Peach trees, and the times at which they matured their fruit, goes on to say—"Now the situation and general structure of this Lancashire house must be good, also the management: and, let me repeat it, no doubt orchard-houses under female management will do very well indeed."

I do not wish in any way to deny to lady amateurs their full share of merit, or the possession of some faculties which we gentlemen are said to want; but as I live in Lancashire, and have several times in your pages denied the success of a certain class of orchard-houses, which denial I founded on my own experiments, and as no one has come forward to prove, so far as I have seen, that I am in error in considering that my own want of success was due not to mismanagement, but, as I believe, to the physical impossibility of success, I cannot help wishing that the particulars of the formation of the house, and what, if any, artificial heat was used, had been given with as much care as was taken to tell us the date of ripening for each individual tree. I know that this part of the subject, the period at which a crop ripens, has more particularly occupied the attention of the writer, just as the relative advantages of different forms of hothouse structures have attracted me; and as the matters above referred to undoubtedly have a very powerful influence upon the success or failure of orchard-houses, I venture to point out that if they are not considered the writer may, without intending it, lead ladies to put up houses from which even the most powerful combination of feminine attributes will fail to obtain success, for the very simple reason that

though ladies do bring sunshine within our houses, it is not the sort of sunshine that can warm an orchard-house.

In an orchard-house there are two methods of growing Peach trees—as standards and against the wall. I presume no one will think I need argue to prove that in Lancashire standard trees will not ripen their crop in the open air, and I am quite as sure that they will do no better in a span-roofed orchard-house—that is, not a Peach-house, by which term Peach-house I mean a house where the ripening of the crop is due to artificial heat, quite regardless of the shape of the house, or the manner in which the trees are trained. My reason for making this assertion is, because I know that span-roofed orchard-houses unassisted with artificial heat, or having only one row of pipes, are not materially warmer than the open air, for they are dependant on sun heat, and our modicum of sun heat is too small to enable them to answer; and I think if the period at which the fruit ripens in these houses in the south of England, where they have greater advantages than here, is compared with the same sort upon the open walls, that my view will be found to be fully borne out. Of lean-to orchard-houses without pipes, or with only sufficient piping to enable them to keep frost out, I have no practical experience, but what information I have been able to obtain during this summer leads me to think that with a row of pipes round them, one could succeed with the treatment I am about to propose, and I am, therefore, all the more desirous to know how these Peaches were grown. Once the rule obtained by which success has been secured, then it only becomes a question of close attention to that formula, and I can quite believe that women are the most capable of that steady, quiet, ever-watchful care which leads to success.

Now let me hazard a conjecture of how Peach trees in a lean-to orchard-house should be treated to command success. I believe if it has a south aspect, and is not too wide, it will be found to enjoy a temperature from 20° to 30° higher than that of the open air, unless this advantage is lost by excessive ventilation, and that in ordinary weather if the custom of Peach-house cultivation is followed—that is, if the house be shut up in the afternoon, the advantage during the night will be greater than during the day. Some may say that this will be a misfortune, but I am of the opinion that it is the greatest advantage this form of house possesses. But it may be said, Custom does not say so; to which I am ready to reply, In how many cases does custom know what it does? Let us consider if it is right to treat a Peach tree and a Vine in exactly the same manner; a Peach tree when it is exposed to cold, or out of health, flowers, and sets and forms its fruit before its leaves come, and then if they delay the fruit drops off, but if it is forced, and treated kindly, the leaves come out much sooner, and the result is that the reciprocal action between the roots and leaves is begun in time to support the young fruit. I will now consider the habit of the Vine, and shall ask, Does not the bunch come after the fourth or fifth leaf? and in this case should not the proper plan be to treat it, as soon as the leaves begin fairly to unfold, to rather less temperature, that the bunch may be kept at a standstill till the leaves have the roots moving, and then it will be safe to move on faster? and in both cases as soon as the fruit or berries begin to swell they should be kept on at a brisk pace till stoning time, as it is at this period that the size of the fruit is determined. Question, Which has the more power to do either of these things—forward or retard a crop—the night or the day temperature? My experience tells me unquestionably that the earliness of a crop depends on the night temperatures, and that in our climate the warm nights when we sit out of doors and enjoy the air, do not last long after midsummer day, and that cold nights will send the trees to rest regardless of the heat of the day, or whether the crop is ripe or not, and hence the success of lean-to orchard-houses where nothing is trained under the rafters, that the sun's rays may have full power on the back wall, which does not fail by radiation to increase the temperature during the night, and as orchard-house trees are seldom permitted to run their roots outside, those upon the back wall have all the benefits of a border warmed by the direct action of the sun, and never cooled by any current of cold air passing over it; and a dry warm border has also a great influence in shortening the time required to produce a crop.

I am trying to obtain meteorological tables of other climates to see what light they throw upon this subject, the relative night and day temperatures in spring and autumn, as I am firmly of the opinion that in climates where the summer is short and nature has consequently to move on quickly in pro-

portion, the same rule is followed in this respect as in hot climates where we know that the crops are perfected in an equally short time. I shall, therefore, be very glad if any of your correspondents can assist me with any information upon these points.—G. H.

PEAR CULTURE.

If the Pine Apple is worthy of its title, King of Fruits, I think the Pear has an equal if not greater claim to be called Prince of Winter Desserts. Why? Is it not sweet like the Pine Apple, without being cloying like the Plum, brisk and refreshing like the Grape and Cherry, melting like the Peach, and buttery as well, which is a quality no other fruit can boast? Added to these, no small merit is its long continuance in season, the change of kinds giving a pleasing variation, besides coming into use at a time when most other fruits are over or scarce. I think the Pear deserving of more extended cultivation, for unlike some fruits of greater fame but less real merit, it requires no expensive glass erections, no costly heating apparatus, but simply a piece of land to grow it on; and though attaining the dimensions of a tree, it may be grown so as to occupy no more ground than a moderate-sized Gooseberry bush.

Its culture may be best treated of under three heads. 1st, Bushes and Pyramids; 2nd, Trained to Walls and Espaliers; and 3rd, Orchard Trees.

1st.—BUSHES AND PYRAMIDS.

VARIETIES.—For this mode of culture the most suitable of those requiring Pear stocks, or not succeeding on the Quince, are:—

Doyenné d'Été.—Small and handsome. July. As a bush on the Quince it is most prolific and ornamental, but does not grow sufficiently for a pyramid.

Seckle.—Small, buttery, very juicy, sweet, and rich; highly aromatic and musky, but of an agreeable flavour. October.

Comte de Flandre.—Large, melting, and handsome. December.

Duchesse d'Orléans.—Large, melting, buttery, and juicy, with a fine aroma, being rich and vinous. October.

Jargonelle.—Large, juicy, rich piquant flavour. August.

Monarch.—Medium-sized, juicy, rich, and piquant, sugary, with an agreeable-perfumed flavour. December and January.

Marie Louise.—Large, buttery, and melting, juicy, rich and vinous; one of the very best. October and November.

Ne Plus Meuris.—Medium-sized, melting, rich, sugary, and vinous. January to May.

Suffolk Thorn.—Medium-sized, melting, and excellent. October.

Thompson's.—Medium-sized, delicious, highly flavoured, and melting. October sometimes, but generally November.

Van Mons Léon le Clerc.—Large, melting, and delicious. November.

Zéphirin Grégoire.—Medium-sized, buttery, very juicy, with a powerful and peculiar aroma; most delicious. December and January.

Succeeding on Quince stocks:—

Alexandre Lambré.—Medium-sized, juicy, sometimes melting, at others only half melting; sweet and aromatic. December and January.

Baronne de Mello.—Medium-sized, sometimes large, melting, and buttery; excellent. October and November.

Beurré d'Aremberg.—Medium-sized, melting, juicy, and buttery, with a rich, vinous, perfumed flavour. December and January.

Beurré d'Amanlis.—Large, melting, and excellent. One of the best autumn Pears. End of September and October.

Beurré Diel.—Very large, melting, rich, and excellent. November and December. I have had fruit of this 21 ozs. in weight.

Beurré de Rance.—Large, sometimes very large, melting, juicy, and excellent; first-rate, one of the best late Pears. January, and often till May.

Beurré Goubault.—Medium-sized, melting, juicy, and sugary; excellent. Does equally well on the Pear stock. September.

Beurré Hardy.—Large, melting, very juicy, and sweet, with a perfume said to resemble Rose-water. October.

Beurré Superfin.—Large, melting, very good. September and October.

Bon Chrétien.—Large, buttery, melting, delicious, and sugary, having a very pleasant musky aroma. One of the best early autumn Pears. September. Should not be allowed to ripen on the tree.

Calebasse d'Été.—Medium-sized, half melting (which some like), juicy, and sweet, but inferior to

Colmar d'Été.—Medium-sized, juicy, and agreeable, forming the most beautiful pyramid I know. End of September.

Conseiller de la Cour.—Medium-sized, but very variable, being sometimes large, and occasionally below the medium size. It is also variable as to quality, but when good is most delicious, having a brisk flavour and a peculiar aroma. November and December.

Doyenné du Comice.—Large, melting, and delicious. This deserves to be more extensively grown. It forms a very handsome pyramid. December.

Forêt.—Medium-sized, buttery, and melting, with a rich and vinous flavour. November and December.

Easter Beurré.—Large, melting, and juicy, with a fine perfumed flavour. January to March. Does not succeed against a wall with me, and is worthless on the Pear as an espalier.

Duchesse d'Angoulême.—Very large, often its chief recommendation; half melting, and rich. November.

Joséphine de Malines.—Medium-sized, melting, very juicy, with a particularly rich aromatic flavour. In my opinion it has no equal. January to April, sometimes May.

Louise Bonne of Jersey.—Large, but unless the fruit be thinned medium-sized, delicious, melting. It has no equal in its season. October.

Yat.—Medium-sized, sometimes small, juicy, melting, and rich, with a highly perfumed flavour. A great bearer, and a favourite with many. September.

The above are all good dessert Pears, calculated to furnish fruit in succession from July to April.

The following are baking and stewing Pears which may be grown as bushes or pyramids on the Quince, but better as bushes, as from their large fruit they do not form good pyramids.

Bellisime d'Hiver.—Very large, sweet and mellow when ripe, keeping well. November to April.

Catillac.—Very large, crisp, often gritty, with a musky flavour. One of the best. December to April.

Léon le Clerc de Laval.—Large, crisp, juicy, sweet, and perfumed. Undoubtedly the longest-keeping Pear known, often sound in June, and is then tender and agreeable. January to June.

Vicar of Winkfield.—Large, handsome, half melting, juicy and sweet, with a musky aroma. December and January.

SITUATION.—The situation should be open to the south, and if sheltered from the north, east, and west, all the better; but it should be by trees or hills at a distance, and not by walls or other objects that will deprive the trees of the sun's rays, or cast a shadow upon them. The situation should be open in every sense of the word, with no more protection than is sufficient to prevent its being bleak. In such situations, and not cold from altitude, nor wet, the kinds named will thrive in our climate; but in high and exposed situations few will do any good. An altitude of 300 feet seems to be the limit of successful Pear culture in the open air in our northern counties, but the fruit attains a fair degree of perfection at an altitude of 500 feet in the southern parts of the kingdom. Much depends upon local and peculiar circumstances, for a particular spot may be so sheltered by hills as to render it even warmer than one at a less elevation. I find that where the Hawthorn blossoms, and perfects a plentiful crop of "haws," the Pear will be at home as to climate, and the kinds named succeed in the open ground with the ordinary protection of gardens.

SOIL.—A good deep loamy soil suits the Pear well, providing the subsoil be efficiently drained, so as to be free of stagnant water. The Pear stock and Quince alike prefer this description of soil, and especially one containing more or less calcareous matter. They do well on marly soils, and such as are not naturally so are much improved for the growth of the Pear by the addition of marl. Very strong clay the Pear stock does not succeed in, or not until the subsoil has been well drained, and the soil well trenched and exposed to the atmosphere; neither will it thrive where the subsoil contains much iron, nor on light free soils. In very heavy land the roots are apt to go down deep, and the trees grow much, offering a preponderance of wood, and small, cracked, fungus-spotted fruit, which does not mature, much less keep. If the Pear on the Pear stock will not thrive on stiff soils with an uncongenial

* For full descriptions Dr. Hogg's "Fruit Manual" should be consulted.

subsoil, nor on dry sandy shallow soils, it does not follow that the Pear on the Quince stock will not succeed, for though the Quince prefers a rich and rather light loam, and moist in character, yet from its roots being shallow it is eligible for the soils referred to.

If the soil to be planted is of a good deep loamy character, it will not require any preparation beyond draining, if the subsoil is at all wet. Do not put in manure in the trenching, as that is best given on the surface. If the soil is a very strong clay the necessity for draining and trenching will be the greater, and these operations having been completed the soil should be thrown up in ridges. It is a good plan in such cold soils to lay out the ground in lines 8 feet apart, running north and south, and, taking up the soil for a space of 3 feet in the centre between the lines, to place it right and left, which will form a ridge or elevation on which the trees are to be planted. For some years the distance between the rows will appear to be far too great, but I prefer having the lines at their full distance apart, devoting the intervening space to Strawberries. By thus ridging or mounding up the ground it will slope towards the sun, its temperature will be raised, and moisture will be more abundant at some distance from the stem, or where it is most wanted, rather than immediately under the tree. Where the soil is thin nothing can be done beyond trenching it as deeply as possible, taking care to observe at the same time whether water lodges in the subsoil, for some shallow soils have much more water in the subsoil than deep strong loams.—G. ABBEY.

(To be continued.)

STRAWBERRIES FOR MARKET.

AFTER the few very able remarks of the Rev. W. F. Radclyffe, which we are always very glad to see, I am sorry that I cannot coincide with his list of Strawberries, although in his enumeration of what they should be for market I think he is quite right.

I do not know all the Strawberries in his list, but with Rivers's Elisa I am too well acquainted to grow it, for the fruit is far too small after the first three pickings, and as to its being early, I am afraid we should come short to receive 7s. or 8s. per quart for it. I think it is quite a fortnight or three weeks later than the early varieties named in the list of Strawberries which I subjoin. It is very productive and bears carriage well, but, as I have said, it is too small. As to Eclipse it is far from a good bearer, and will not do for out-door work at all. I do not know much about the rest, but Frogmore Late Pine is the best we have in the garden; it is everything that is good. I have heard much about Dr. Hogg Strawberry, which I hope to have very shortly. Eclipse is one of the best forcers we have. We have been growing Strawberries from twenty-five to thirty years, and have about an acre of them, and we generally buy a new sort every year.

The following is our list:—

For Early Crop.—Princess William of Prussia is very early, a good bearer, but the fruit is rather small after the first picking, but it makes up for this by being about a fortnight earlier than any variety which we have. We grow this on the fruit borders for one-year croppers.

Alice Maude is our standard. General Havelock is a very good early variety, large, and hard; to be grown in rows; comes in about a week later than the last. We have a new kind called the Princess of Wales, which is earlier than Princess of Prussia I believe.

Second Crop.—Kitley's Goliath is an old standard variety, a good bearer and medium hard. Carolina Superba is a very good bearer, hard, and would be better with more colour. It will sell after the people know it. Sir Harry is a good bearer, and very large. It must be gathered before ripening when sent to a distance. Sir Charles Napier is very good but rather sharp. Myatt's Elina is one of our best market Strawberries. We sell it mostly for preserving. It is much better than Elton, of which we grow a few.

Late Crop.—Frogmore Late Pine is, as I have said before, everything that can be desired. Myatt's Eleanor is very good. It must have plenty of sun and air.

By growing the varieties named in the above list, and in the manner already detailed in your valuable Journal (see page 345), we are always in the market first in spring and last in autumn, and obtain the best demand and the best prices. Thus I have good grounds to put eight of my sorts against those of

Mr. Radclyffe. I am glad you have stirred up some of the market gardeners; there are many exceptions, especially round London, but if you go into the country it is different. Even at Exeter three-fourths of the market gardeners only grow the old Carolinas, and some of the larger growers cultivate Kitley's Goliath and Eliza, but very few; and they grow them mostly in beds, with the exception of one or two who cultivate in the way which I have condemned. I may remark in reference to the first runners going too much to leaf, we never find it so. We like to see plenty of leaves, it tells us there is a good ball.—J. T. and OTHERS, Newport, Monmouthshire.

P.S.—It may not be out of the way for me to state, that for amateurs and small gardeners with very wet clayey ground it would be well to have pots to grow their large Strawberries in. The pots are like Rhubarb-pots with both ends out, and about 1 foot or 15 inches high, 10 inches wide at the bottom, and 6 at the top. Set them about 2½ feet apart, and nearly as close together in the row as they can stand, of course, placing the wider end downwards. One would think this a very expensive plan, but I will engage that those who adopt it will be well repaid in the first year. To use these pots put into them some good soil and good rotten cowdung, one part of the latter to three of the former; the plants are kept clean, no slugs can get at them, and they look very beautiful. Fill up between the pots with dung 3 or 4 inches deep.

HORTICULTURE ON THE CONTINENT.

THE Pomological Congress held at Melun seems to have been a success. Among the prizes I notice the gold medal awarded to the Royal Horticultural Society of London for its collection of fruits, comprising 35 varieties of Grapes, and 142 varieties of Pears. This medal was presented to Dr. R. Hogg, "the distinguished pomologist," by the Mayor of Melun, as a token also of the "good fellowship existing between the two nations." The twelfth meeting of the Society will be held next year at Paris.

The rainy summer just past seems to excite the same complaints on the Continent as here. Various plants having bloomed this year which had never previously done so, or at least but rarely, this fact has occasioned some comment. Among these is the *Hibiscus ferax* at Paris, and some very strong *Phormium tenax* near Brest, which latter all bloomed this year for the first time.

The Japan Medlar (*Eriobotrya japonica*), has this year produced fruit at Agen, at Auch in Guienne, and at Angers, which is about three hundred miles farther to the north. It had been cultivated for years at these places, but has only produced fruit this season, and this on every tree. On the other hand, the Vines have in general produced an abundant crop, but of inferior quality. The explanations attempted have not satisfied the growers, unless it be that flowers and fruit are not formed during the year of their appearance, but in the preceding one. Last season was very hot, and favourable to vegetation. Local conditions also have a great influence on such matters. The *Euonymus japonicus* produced a fine crop of fruit late in October in the garden of the Museum at Paris. These fruits generally ripen in the spring, sometimes very late in autumn. The question is, Will they withstand the winter frosts? If, therefore, the extreme heat of the preceding summer has been the cause of this crop, it is also certain that after years equally favourable this species has not produced any fruit. At Vitry fruit has also appeared for the first time. We must search deeper for the true causes.

M. F. Jamin asks, Is the Black Mulberry a distinct species or not? He thinks not, from the fact of want of permanence in character during several generations. This year some plants raised from the first generation retained only the reddish brown epidermis, which is also slightly rugose and dense. Some seeds of the White Mulberry from Bulgaria were sown by M. Carrière, and have produced young trees which are akin to the common Italian Mulberry. From this can it be argued that all Mulberries truly so called may be restored to a single type? After all, what constitutes a species? Such are some of the questions discussed in foreign journals of horticulture at present.

The "Revue Horticole" for November contains a plate of *Anthurium Scherzerianum*, which has had a great triumph abroad. It was exhibited in fine condition at the London International Horticultural Exhibition by Messrs. Veitch. The subject of the other plate is *Hydrangea rosalba*, so called by M. Van Houtte, the name having been formed from the varieties

rosea and alba. M. André, who is known to many English Horticulturists, reports very favourably on a new Pelargonium, *Eléonore Petit*, considered nearly equal to *Gloire de Paris*.

The Committee of the Paris Exhibition have taken the ground called Billancourt. Part of it had been secured by the Society of the Market Gardeners of Paris for the purpose of exhibiting their productions, which the French themselves consider a model of skill; but by some neglect in breaking up the ground, augmented by the drenching rains of September, the Society feared to undertake its share of the work without, as is so usual in French enterprise, an imperial guarantee. It seems that heavy autumn rains are very likely to be followed by winter storms in the latitude of Paris, and this fact decided the abandonment of the ground. It has, therefore, to the great disappointment of the Committee, been taken to show agricultural machines in operation. A number of the most able market gardeners had engaged to occupy the ground in such a manner that the crops should have been gathered in rapid succession.

Is it true, asks the "Revue Horticole," that all the male *Gynuriums* are more or less of a rosy hue? No; this supposition presents many exceptions, many varieties of the darkest colours being completely female. In fact, *Gynuriums* present remarkable variations of every kind. Even stiff and narrow panicles do not, of necessity, characterise male plants, as many suppose. One beautiful variety has received the name of "Marabout."

M. Gloede announces a remarkable variety of the Strawberry, which, he says, produces a good crop the first season, and continues to flower and produce fruit until the autumn. Doubtless, we shall have an opportunity of judging of its merits, and Mr. Radclyffe will give us the advantage of his experience. The French editors seem rather dubious as to the possibility of this matter, and "leave to M. Gloede the responsibility of what he advances."

With respect to a new Peach, Heath Clingstone, which was beautifully coloured in a former Number of the "Revue," it would not be difficult to form an opinion. From what is known of it already, it is only one of a numerous race of yellow Peaches, which are now just introduced into France, and which require very careful cultivation and some appliances to bring them to perfection. Certainly our neighbours have of late years been completely outstripped by the introduction of orchard-houses in England. The ensuing Exhibition will be a good opportunity to test this fact. Intending exhibitors had better be very careful to fulfil all the required details, and to select such sorts as will best serve to compete. There are few or no Peaches in the French markets, except from Algiers, before the commencement of August. Early Grosse Mignonne is the very earliest sort sent in from Montreuil, and this usually ripens about the very end of July, or the commencement of August. The Algiers Peaches are, however, sometimes very fine, and well coloured. I should, therefore, recommend intending orchard-house competitors to try very good early sorts, such as Early York, and Mr. Rivers's early seedlings, of which Early Silver could not be approached in France. The mere mid-season Peaches common to both countries should not be sent, as a rule. Nectarines would be very valuable for exhibition. Such sorts as Rivers's Victoria cannot be met with, as yet, in France. This is, therefore, the moment to show it. In American Apples (orchard-house-grown) much might be done, as also in the numerous varieties of handsome Plums of recent introduction. For Pears it would be well to be very careful in the selection, as the French and Belgian growers have long been renowned for their fruit. Doubtless, American fruit will also compete. In short, it is most desirable that some advice should be given by experienced persons at this time, and such I understand, is likely soon to be the case. Many prizes are also to be awarded to trained forms of trees, and now is evidently the season to decide thereon. Let us not allow our foreign friends to take the prizes in these classes so easily. At the International Exhibition in May last, there were hardly any English exhibitors in them.—TH. BRÉHAUT.

NE PLUS ULTRA PEA.—I sowed this Pea in the middle of the garden in the last week in June, and finished gathering in the last week in October, and a better Pea I could not wish to have. I feel confident that the result would have been favourable had the sowing been made even much later. Another year I mean to try it for much later production.—W. C., *Staplehurst*.

ROYAL HORTICULTURAL SOCIETY.

DECEMBER 4TH.

FLORAL COMMITTEE.—The last meeting for the season was held this day, and it proved by no means inferior in interest and display of plants to many which have taken place during the closing year. There were many objects of considerable interest, among them a very fine display of Orchids and other plants from the Society's gardens at Chiswick and South Kensington. Mr. Turner exhibited a very handsome and beautiful *Adiantum*, a seedling from *A. farleyense*; the fronds very fertile and of a brilliant green colour, greatly differing in form and colour from those of the parent. Much interest was attached to the specimens, and farther information respecting them has been requested. Messrs. Veitch sent a recently imported plant of *Dendrobium giganteum*, to which reference is made beneath. It had beautiful spikes of highly scented pale lilac flowers, with a dark under lip. A first-class certificate was awarded it. From the same firm came also *Odontoglossum* species, sent to be named, a supposed form of *O. membranaceum*. Mr. Buchanan, gardener to Capt. Trotter, brought a fine specimen of *Celosia pyramidalis*, called *plumosa aurea*. The flowers were rather faded, but the plant had been well grown. Mr. Wilson, gardener to Wm. Marshall, Esq., Enfield, sent a specimen of *Lycaste Skinneri* alba, a pure white flower of great beauty. A first-class certificate was awarded for it; and a like award was made to Mr. Anderson, gardener to W. Dawson, Esq., for a similar specimen of *Lycaste alba*. Mr. Sherratt, gardener to J. Bateman, Esq., exhibited cut specimens of *Eriopsis rutilobulbon* and other Orchids. From Mr. Bull came a large specimen of *Selaginella denticulata variegata*. Should this plant retain its variegation when planted out of doors it will be most useful for edgings of flower-beds. Mr. Anderson, gardener to Wm. Dawson, Esq., received a special certificate for a superb cut spike of *Odontoglossum Alexandræ*, also a special certificate for several other fine cut specimens of Orchids. Mr. Standish introduced quite a new form of *Aucuba japonica* (hermaphrodite), producing perfect flowers on the same plant. Should this seedling afford berries from flowers fertilised by pollen produced on the same plant it will prove a great botanical novelty. The *Aucubas*, so far as experience goes, have always been found dioecious plants. Mr. Standish also brought specimens of a new Yew, *Taxus adpressa stricta*, a plant of upright growth, always making a good leader. A first-class certificate was given it. A small basket of *Saxifraga tricolor*, which Mr. Standish informed the Committee was grown in the poorest peat in a cool house, on a shelf near the glass, was awarded a special certificate for meritorious cultivation. Mr. Wm. Paul exhibited a collection of fifty varieties of Beaton's Scarlet Pelargoniums; the cut specimens were very tastefully arranged and were much admired. A special certificate was awarded them; also a collection of cut specimens of berry-bearing shrubs, consisting of *Hollies*, *Cotoneasters*, &c., and shrubs with coloured bark, likewise contributed by Mr. Wm. Paul: the latter are quite a new feature, and worthy of consideration in planting a shrubbery. George Cooper, Esq., Old Kent Road, exhibited a recently imported specimen of an *Epidendrum*: it appeared to be quite distinct. The plant was not in good condition. Mr. Bateman decided upon its being named *E. Cooperi*. Mr. Pilcher, gardener to S. Rucker, Esq., received a special certificate for cut specimens of some lovely Orchids, which were most kindly sent for Mr. Bateman's illustrations.

We cannot conclude our last report of the season without expressing our satisfaction and delight on the great success of these Tuesday meetings. The Fruit and Floral Committees have been fully occupied, and we trust that the horticultural world will benefit by their labours. The strong unity of feeling which once more seems to be influencing the Fellows of the Royal Horticultural Society, and the great success of the past season, seem fully to augur continued support and increased success to these most interesting meetings.

FRUIT COMMITTEE.—Mr. J. Douglas, gardener to F. Whitbourn, Esq., Loxford Hall, Ilford, exhibited two remarkably fine Pine Apples, perfectly ripened, for each of which he received a special certificate. One was a very handsome fruit of Charlotte Rothschild, weighing 8½ lbs., the other an equally handsome Smooth-leaved Cayenne, of 7½ lbs. 10 ozs. A special certificate was likewise awarded to Mr. Cox, gardener to W. Wells, Esq., Redleaf, for a collection of eighteen sorts of Apples, very sound, well grown, and for the most part finely coloured. They consisted of Ribston, Fearn's, Cox's Orange, and Blenheim Pippins, the last very fine; Scarlet, and Golden Winter Pearmain; Court of Wick, Sam Young, Golden Russet, Nonpareil Russet, Golden Harvey, Golden Reinette, Harvey Apple, Christie's Pippin, Packhorse, Seek-no-farther, and Bedfordshire Foundling. From Mr. Jack, gardener to the Duke of Cleveland, Battle Abbey, came fruit of *Stauntonia latifolia*, bearing considerable resemblance to a Purple Brinjal; on being tasted it proved to be very insipid. Mrs. Tennant, The Glen, Innerleithen, N.B., sent fruit of a *Pasiflora*, called *macrocarpa*, measuring about 7 inches across, and 9 inches or more in length, and to which allusion will be made farther on. Notwithstanding the large size of the fruit the edible portion was small in quantity, and not of very good flavour. Mr. Smalley, gardener to the Hon. A. Seymour, Norton Hall, Daventry, exhibited a spike of the fruit of *Bromelia Commelyniana*, De Vries, measuring 21 or 22 inches in length. The fruit is oval, has much the same size and appearance as a rather small Yellow Magnum Bonum Plum, and the number produced in each cluster is very large. Major R. Trevor

Clarke stated in a letter accompanying the fruit, that the plant which produced it had been growing in his temperate plant-stove for five or six years, but two or three years ago he had given it to the exhibitor, by whom it was grown in the centre of a moist, warm stove, without restriction, and where it overtopped all other plants. In structure Major Clarke said that it was a veritable Pine Apple, but each pip was separate, instead of being united in a fleshy receptacle. It also partook in a slight degree of the Pine Apple flavour, but this, it was stated, the Committee failed to detect. The only other subjects exhibited were some samples of Bedfordshire-grown Onions, from Messrs. Wrench, London Bridge.

FORTNIGHTLY MEETING.—J. Bateman, Esq., F.R.S., in the chair. After the election of new members and the announcement of the awards, Mr. Bateman offered remarks on some of the subjects exhibited, directing attention in the first place to the *Aucuba* exhibited by Mr. Standish, of Aspot. The plant was a seedling, having the cotyledons still attached to it, and bore hermaphrodite flowers—a circumstance of considerable importance, for in all the *Aucubas* hitherto known male and female flowers are produced on different individuals, and the male plants are not yet sufficiently plentiful for fertilisation to be performed through the agency of bees and other insects, consequently in order to obtain fruit that process must be effected artificially. If, however, the plant preserved its peculiarity when propagated, to obtain fruit it would probably not be necessary to have male and female plants in the same garden. An interesting collection of berry-bearing plants from Mr. William Paul next occupied attention, then *Taxus adpressa stricta* from Mr. Standish. With reference to the latter, it was remarked that those who live in the northern counties pay great attention to evergreens, and as this Yew is of upright habit, and apparently of free growth, it would be there regarded as a useful addition to hardy shrubs. Mr. Bateman next adverted to a remarkable *Granadilla* shown by Mrs. Tennant, and which was as large as any Melon, and he only wished he could say it was half as good; but the edible part, the pulp in which the seeds are embedded, was small, and not very agreeable to the palate. It was no doubt nearly allied to *Passiflora quadrangularis*, which occupies an intermediate position between *P. maliformis* and *P. edulis*, the Purple-fruited *Granadilla*, which really deserves to be grown for its fruit. He had no doubt that the *Passiflora* shown by Mrs. Tennant was that which Mr. Hullett had been sending out as *Passiflora macrocarpa splendens*. This, Mr. Bateman said, led him to *Passiflora Hullettii*, a description of which he read from a nursery catalogue. In this it was stated, that besides having very ornamental leaves 8 inches across, and large flowers, white spotted with pink, constituting a desirable addition to our flowering plants, "it will, no doubt, prove to be one of our most valuable exotic desert fruits; the flavour of that produced in this country last season being so delicious, that it was pronounced superior to any of our Pine Apples." Mr. Bateman then expressed a wish that any gentleman who had tasted the fruit would come forward at or before the next meeting and give his experience respecting it; also any one who has seen those Durions, and Mangosteens, and he knew not what besides, which Mr. Hullett speaks of as having been fruited in this country.

Mr. Bateman next proceeded to notice the Orchids, the display of which, he said, showed that collections of them might be made to afford quite as gay an appearance in winter as in the height of summer; and he mentioned that those at Mr. Rucker's are just now in great beauty. From that gentleman had come spikes of the hybrid *Calanthe Veitchii*, a most effective winter Orchid, in beauty far outstripping its parents *Calanthe vestita* and *Limatodes roses*; likewise a plant of the *Epidendrum vitellinum majus* of Lindley's "Sertum Orchidaceum." From Messrs. Low, of Clapton, there came a plant of the true *Lælia furfuracea*, under which name many have *Lælia autumnalis*, which is very different; also one of *Eriopsis rutidobulbon*, of which Mr. Bateman exhibited a blooming spike. An unnamed *Oncidium*, shown by Messrs. Backhouse, was then noticed as being deliciously scented; and of the new *Epidendrum* exhibited by Mr. Cooper, of the Old Kent Road, Mr. Bateman remarked that he had named it, after that gentleman, E. Cooperi. Allusion was next made to the cut Orchids exhibited by Mr. Anderson, of Meadow Bank, and especially to *Odontoglossum Alexandræ*, which Mr. Bateman observed was the finest spike that had been produced in this country, and far exceeded the best that had ever been found in the native habitats of the plant. Mr. Anderson also exhibited some fine varieties of *Lycaste Skinneri*, which contrasted beautifully with the white *Lycaste* shown by Mr. Marshall. In connection with a *Masdevallia* with very inconspicuous flowers, and which, though pretty, was not worth the attention of cultivators, it was remarked that although the species of *Masdevallia* are very numerous, only two are worth much—one with white and the other with scarlet flowers; but a drawing was exhibited of *M. elephanticæ* of Reichenbach, melesagris, and bicolor, the first of which, in particular, it would be desirable to introduce. *Masdevallias*, it was observed, require special care in order to import them, and it was stated the only plant of *M. coccinea* that ever reached England alive was brought over by M. Warszewicz in a cigar-box. There was one other plant to notice, and that was the most magnificent of all, being one shown by Messrs. Veitch, under the name of *Saccolabium giganteum*, and respecting which Messrs. Veitch furnished, in a letter, the following information:—"We send for exhibition to-day a fine

new *Saccolabium*, imported from India during the spring of the present year under the name of *Saccolabium giganteum*. It is evidently a free grower and an abundant flowerer, beside which, as will be easily discovered, it is most delightfully scented. The credit of its introduction is due to Lieut.-Colonel Benson, of the Indian army, who was also the fortunate introducer of the fine *Vanda Bensoni*, lately figured in the 'Botanical Magazine.' We also send a specimen of *Saccolabium violaceum* for comparison." To the last, Mr. Bateman stated, it is nearly allied, though botanically distinct, and gave reasons, founded on Dr. Lindley's descriptions, for adopting the name of *Saccolabium densiflorum* for this fine introduction. Mr. Bateman said he could not conclude his remarks without congratulating Orchidists on the number of first-rate Orchids which had appeared at the Society's meetings during the year. There were no fewer than five. First of all he would mention the splendid *Dendrobium thrysiflorum*, shown in June last, and which was a mass of white and gold; but Mr. Bateman thought at the time it was a white variety of *D. densiflorum*, but on examination it proved to be *D. thrysiflorum* of Reichenbach. Next came *Dendrobium MacCarthiae*, exhibited by himself, but he had then no idea that it would prove so beautiful and last so long in bloom as it had done. The third was *Cattleya Dowiana*, exhibited two months ago by himself, but which had been previously flowered by Messrs. Veitch. Then there was *Mesopididium sanguineum*, a cool Orchid from Peru, shown at the last meeting by Messrs. Backhouse; and lastly, Messrs. Veitch's *Saccolabium densiflorum*. He hoped that the year which was to come would be as prolific in first-class Orchids as that which had nearly passed away.

The Rev. Joshua Dix said, that as this was the last meeting in the year, he would propose a vote of thanks to those who had so liberally contributed to the success of the Tuesday meetings throughout the season. Mr. Wilson seconded the motion on the part of the Fruit Committee, which he said had been equally well supported. A vote of thanks was likewise accorded to Mr. Bateman for the interest which he had taken in these meetings, and for so largely contributing to their success.

WEEKLY SHOW, December 8th.—A first prize was awarded to Mr. W. Earley, gardener to F. Pryor, Esq., Digswell, Welwyn, for a collection of flowering plants, amongst which were *Dendrobium chrysanthum* and *Epacris bicolor* and *Delicata*; and a second prize to Mr. B. Brown, gardener to R. H. Wyatt, Esq., Wandsworth Lodge, Upper Tooting, for a collection of flowering plants, including specimens of *Zygopetalum Mackayi* and *Cypripedium insigne*. Mr. W. Young, gardener to R. Barclay, Esq., Highgate, was awarded a third prize for a miscellaneous collection of flowering plants. Mr. W. Bartlett, Shaftesbury Road, Hammersmith, contributed a collection of *Chrysanthemums*, *Primulas*, &c., to which a first-class certificate was awarded; he also exhibited a collection of six plants. A miscellaneous collection of *Tulips*, *Begonias*, *Primulas*, &c., was sent from the Society's garden at Chiswick. For the best collection of fruit the first prize was awarded to Mr. B. Brown, gardener to R. H. Wyatt, Esq. Mr. W. Earley, gardener to F. Pryor, Esq., Digswell, Welwyn, obtained the second prize, and Mr. W. Young, gardener to R. Barclay, Esq., the third prize. Mr. R. Marcham, gardener to E. Oates, Esq., Bydorp House, Hanwell, received a first-class certificate for a collection of Apples and Pears; and a first-class certificate was awarded to Charles Webber, Esq., Winaland, near Totnes, for a dish of Pears. Mrs. Inwood Jones, Cadogan Place, Sloane Street, received a first-class certificate for a dish of Scarlet Crofton Apple; this lady also exhibited a specimen of Italian Grass from the gardens of the Comte de Chambord, Venice. Mr. Thomas Rivers, Sawbridgeworth, sent two dishes of home-grown Tangerine Oranges; and Mr. Hill, Angel Row, Highgate, a collection of Potatoes and Onions. Mr. Young, gardener to R. Barclay, Esq., was awarded a first-class certificate for a collection of vegetables.

RENOVATING UNSIGHTLY TRAINED ROSE TREES.

WHEN against walls of a good height, Rose trees are sometimes very liable to become too naked and unsightly all along the lower portions; even the most careful cultivator cannot always ensure a nicely-trained Rose tree, and, at the same time, one well furnished with leaves all over its lower portions. It is to be observed, many trees, when trained against walls, are very liable to run a-head, and thus become too naked about their stem. A little judicious treatment, at a proper season of the year, would go a good way to remedy the unsightly appearance, and be a means of giving quite a fresh look to the tree. There are two ways which we have acted upon, the one differing somewhat from the other.

Firstly, supposing you have a Rose tree trained against a wall, covering the latter wall for some feet or yards on each side of the root, upwards to the top of the wall—having been for years generally well furnished all over with spurs and flower-buds, but in the course of time the lower portions gradually lessened in their leafy covering, as well as in their apparent

ability to produce flowers—if the spurs are not dead, it may be recovered by judicious pruning. Wait and see March well advanced before you attempt to prune it; and when you prune the first portion of it, let this be only the lower part of it, and let some weeks elapse ere you attempt to cut in the higher portion. Indeed, perhaps you had better let all the upper part break away into life before you prune any of the higher part. By doing so, you will find that all the buds towards the base of the shoots or spurs remain dormant; while those more towards the points of the shoots burst away into leaf. Well, just let them do so, and in the end of April, or the beginning of May, cut back all those upper shoots to their proper position. By this way of acting, it often happens that all the lower parts, where first pruned, will have time to burst away and go a-head before the upper portion can break forth from the eyes, close along the bottom, where you can cut it back to.

Another way can be acted upon; and this we have proved, in several cases, to render great service in restoring unsightly Rose trees, and to clothe again the lower portions with foliage and flowers. The mansion-house where we were was about to be renovated, and a portion of its walls painted outside, where there were several Rose trees nailed up against the wall. These had to be unfastened, and laid backwards as far as they would admit of. A few stakes were firmly driven into the ground, and the Roses tied slantingly backwards. This was in summer, and thus they remained, while the wall was painted over several times; and before all was ready for the Rose trees being trained up again, it was pleasing to see all the bare lower parts breaking out with a healthy and vigorous covering of shoots, which in due time repaid us with a nice crop of flowers; and by judicious management, this kept the trees in very fair condition for several years. Since then, we have tried the Gloire de Dijon Rose, as well as several others. It is only to put up with the unsightliness of the trees being unfastened and brought forward for a few weeks at most: rather this than allow them to remain unsightly for a yard or two up the wall for years. —G. DAWSON (*Scottish Gardener*).

SWYNNERTON PARK,

THE RESIDENCE OF BASIL FITZHERBERT, Esq.

This beautiful residence is situated on an eminence skirted by rich shrubberies and extensive pleasure grounds, and overlooks an extensive park chequered with woods and heath, and laid out with considerable taste. It is about four miles north-west of the market town of Stone. The Hall, the residence of Basil Fitzherbert, Esq., lord of the manor, is a handsome stone mansion, with a very pleasing exterior. In the reign of Henry VIII. the daughter of Humphrey Swynnerton carried this extensive manor in marriage to the Fitzherberts, a very ancient and honourable family, which has been seated here since the sixteenth century. Sir Anthony Fitzherbert, the celebrated judge and author, was of this family.

In the centre of the front a grand entrance opens into a magnificent hall, between a splendid pair of Corinthian columns. The internal arrangements are chaste and elegant; the library is of great value, and in numerous apartments are many fine portraits and other paintings. I observed in close proximity to the mansion a handsome chapel in the Gothic style, enveloped by masses of Ivy and luxuriant evergreens. It was built by the late Thomas Fitzherbert, Esq.

The kitchen gardens and vineries lie to the west of the mansion. The kitchen garden proper is about two acres in extent, nearly square, and enclosed by brick walls. The south-aspect wall was covered with Peach and Nectarine trees of the varieties adapted to the climate. They were planted as maiden trees about ten years ago by Mr. Turner, the head gardener; they are fan-trained, each branch being as straight as a rifle barrel, and on an average in favourable seasons carry heavy crops of fruit. The east and west walls are covered with Pear trees, which are very productive. A few years ago Mr. Turner, finding they did not bear satisfactorily, had them all taken up, root-pruned, and replanted, and now they are in the best possible bearing. The wall with a north aspect was covered chiefly with Plums. Round the different squares there are many bush Apple trees about 7 or 8 feet high, and nearly as much in diameter; these have also been recently taken up and the roots severely pruned, and though the stems are as thick as a man's thigh, yet the trees are now in the highest state of fruitfulness—a fact of which evidence was afforded by the large quantities of fine Apples in the fruit-room. In the squares were large beds of

winter vegetables, such as Savoys, Brussels Sprouts, Broccoli, Borecole, and Cardoons. A large bed of the Triple Curled Kale looked very ornamental, and is useful for garnishing, whilst the young sprouts in spring are very tender and good. I may here add that Mr. Turner obtained the first prize for a collection of vegetables at the Horticultural Exhibition at Newcastle-under-Lyne in September last.

Leaving the kitchen garden we now enter another square, in a line with the previous garden, covering nearly an acre, and surrounded by walls. On the south wall was the range of vineries. The centre of this garden is devoted to flowers, the beds being filled with bedding plants during the summer; these beds are encircled with a strip, about 4 feet wide, planted in the ribbon fashion. In a shady corner there was a piece of rockwork with many British Ferns growing in the interstices, and such plants as Saxifraga oppositifolia and Sedums in great variety, which, creeping over the stones, gave it a very pretty and natural effect.

We now enter the range of vineries, and I will take them in rotation as we passed through them. The first I entered was the early house, started generally about Christmas; the Vines were being dressed and prepared for the next year's campaign. It was planted with Black Hamburg, Buckland Sweetwater, and Muscat of Alexandria. Mr. Turner exhibited fruit out of this house at Stafford in July, and obtained the first prize for Black and White Grapes, taking also in the same month the first prize for Black and White Grapes at Newcastle-under-Lyne. The day afterwards the same Grapes were exhibited at Alton Towers; Mr. Silcock, of Somerford Park, on that occasion bore off the laurels, but it was what our old friend Mr. Beaton would have called "a neck-and-neck run," the contest was so very nearly equal. The Vines in this house have been planted many years, and last season Mr. Turner, considering that they were deteriorating in vigour, lifted them, and remade the border; and now, in addition to the excellent fruit they have produced this year, there is promise of success for the future in well-ripened canes and prominent buds. The borders are on the outside, and the mode adopted in their formation has been very simple. They are about 5 feet in depth, 2 feet being drainage, and the other 3 feet chopped turf, broken bones, mortar rubbish, and stable-manure. The proportions were three barrowloads of turf to one of bones, mortar rubbish, and manure. The next house is the centre of the range, but the last in rotation of cropping, it was full of late Grapes, all Black Hamburgs; they were as black as they possibly could be, and did great credit to Mr. Turner's skill in Grape-growing. Here we had a little discussion on a point of great interest to all who cultivate the Vine. Some of the bunches showed symptoms of shanking, and as Mr. Pearson, in No. 294, page 361, had given it as his opinion that one of the most frequent causes of shanking is the injudicious removal of a large quantity of foliage while the Vine is in a growing state—and one of the most sensible ideas I ever remember being advanced on the subject—I was anxious to obtain Mr. Turner's opinion on this important point. Mr. Turner adopts the long-rod system of training and pruning, and has occasion to remove very little foliage; as a rule his Grapes are not subject to shanking, so he informed me, but he attributes it in his case to the excessively wet autumn, and the borders being saturated with rain before he put on their winter covering.

The last house in the range is the second forced, and the Vines are Buckland Sweetwater, Royal Muscadine, and Black Hamburg. I noticed a rod of the Buckland Sweetwater, grafted this spring on the Black Hamburg; when the graft was placed on the stock it was like a mere straw, but the shoot had reached the top of the rafter, and was about 2½ inches in girth. I did not take the dimensions of these houses, but I should suppose them to be each about 50 feet long, and 18 feet wide.

Stepping out of the houses, we pass through a winding shrubbery to the pleasure grounds, and pursuing our journey in the direction of the mansion, we come to the terrace front, where a glorious landscape presents itself, one of the most extensive prospects being obtained that any county can boast, and of its kind the most beautiful. The park falls with a gentle declivity to a lake in the distance. Its extent is concealed by evergreens and tall trees of varied foliage. To the left, in the distance, are seen Sandon Hall and park, the residence of the Earl of Harrowby. In the distance may also be seen Cannock Chase, a vast tract of land comprising 82,000 acres of heath, the greater part of which has been enclosed during the present century. It was a favourite hunting-ground of the early Saxon kings. At that time, and for centuries after—

wards, it was covered with a profusion of majestic Oaks. Beyond, on a bold and well-studded eminence, rises Stafford Castle. To the south-west may be seen rising in majestic grandeur the Wrekin in Shropshire, also the borders of the Cheshire hills; while in the west, as far as the eye can reach, rise to the clouds the Welsh mountains in all their beauty.

I would gladly linger over the scene, but time forbids; so, leaving the mansion behind us, we pursue our course by the east end, and come to where two walks diverge—one to the right and the other to the left. As we pass on to the right, near to the boundary of the pleasure grounds, fresh views of the surrounding scenery are occasionally obtained. In a pleasant retreat to the left is the croquet ground, encircled with dwarf coniferous plants, and sheltered in summer by the foliage of tall deciduous trees. A little further on is one of the finest and most venerable specimens of the English Oak I ever met with; it took Mr. Turner and myself twice each to span round it, but its glory is now departing. We come again to a branch walk, and retracing our steps round the back part of the grounds, we again pass the mansion, and I take leave of this venerable seat, feeling satisfied, though my visit was made in the middle of the duller month in the year (November), with the profit and pleasure derived, and the kindness received from Mr. Turner in pointing out every object of interest.—QUINTIN READ, *Port Hill Gardens, near Burslem.*

TRICOLOR PELARGONIUM SOPHIA DUMARESQ.

At page 382 of your Journal (Nov. 20), we observe a wrong statement, to the effect that the writer, "John Aldred," was the raiser of that fine variety of tricolor Pelargonium, *Sophia Dumaresq.* In justification to ourselves we ask to contradict the statement. The variety in question was raised in our nursery three or four years ago, and exhibited previous to, as well as after it received its name, and prior to our having purchased the small stock of a tricolor Pelargonium from the same party (J. Aldred), which, when first offered, during the winter months, exhibited indications of merit; but on showing its permanent character in the following spring, proved to be identical with *Sophia Dumaresq.* We know nothing more of its origin than what is here stated.—E. G. HENDERSON & SON, *Wellington Nursery, St. John's Wood.*

MASTERS'S PROLIFIC CUCUMBER.

I CAN strongly recommend this kind as one of the most useful for winter work. It is, indeed, most prolific, carrying frequently two fruits at a joint.

Some years ago I met with it in Ireland, and from what I then saw of it, I was determined to give it a trial. This season I procured a packet of seed from Messrs. Veitch, who, I believe, sent it out to the public. It is now in full bearing, fully justifying the opinion I had of it when I first saw it growing. It is not one of the 24-inch kinds, but averages about half that length—amply large enough where a Cucumber is in demand every day throughout the winter.—J. EDLINGTON, *Wrotham Park.*

HARDY APRICOTS.

It is within the recollection of the present generation that the best varieties of Pears were so tender that a wall was indispensable. These varieties were of French origin. Of late years, the attention which the Belgians have paid to raising new and hardy seedlings has enabled us, in the south of England at least, to cultivate Pears as pyramids, and to do without a wall, except for that king of Pears, Winter Nalis, though in fine seasons even this is good on a standard.

The next fruit which seems now to demand attention is the Apricot. It wants but little of being hardy. On the banks of the Seine it may be seen as a standard, and, I presume, ripens fruit. The Brussels and Breda varieties in favourable localities in England used to bear, and there is no reason why they should not do so still, though, in my own garden, the Breda Apricot never showed fruit till it was placed against a wall. A few years ago it was said that M. De Jonghe had raised some seedlings, several of which were perfectly hardy at Brussels. If so, it might be worth while to give them a trial in our cooler

English summer, or at least to raise further seedlings from them, so as to obtain still hardier fruit. In the fine season of 1865 we heard much of ripe standard Peaches, but the Apricot, as being less tender, offers greater inducements to the experimentalist who wishes to benefit horticulture.—G. S.

NOTES AND GLEANINGS.

We long since noticed the introduction from Japan of a male plant of the *Aucuba japonica*, and the consequent production of plants bearing fruit in this country. Previously we had only plants bearing female blossoms. Mr. Standish, promptly taking advantage of the production of fruit, has raised seedlings, and with more than expected success, for one of them exhibited at the Royal Horticultural Society produced hermaphrodite flowers—that is, each flower had stamens and pistil. Many naturalists consider that when either set of organs is not developed in a flower, yet the rudiments of that set exist, and only require some particular mode of cultivation for their development.

At the Exhibition next year at Bury St. Edmunds the Royal Horticultural Society will give a cup. We hope it will be the most valuable offered, and for excellence in some department of high horticultural art, and not for a mere matter of taste.

"Twenty years ago," observes a correspondent in "Science Gossip," "when botany was my hobby, I adopted a plan for drying my specimens, which was both rapid and very effectual in preserving colours. I borrowed a tin dripping-pan from the cook, which was just the size of my sheets of blotting-paper. In this I laid the produce of the day's excursion between sheets of blotting-paper, in the usual way, and, when the pile was complete, I covered it over with a layer of common scouring sand half an inch thick, so that the tin dish appeared to be simply full of sand. I then placed it on the kitchen fender, or on the hob, or in the oven, if it were not too hot, and in three or four hours the whole batch of specimens was perfectly dried. It required a little care to take them out at the right moment, when they were baked just enough, and not too much; but, this care being given, the success of the plan was perfect. Many specimens still in my herbarium, bear witness to the superiority of such rapid drying over the old method."

WORK FOR THE WEEK.

KITCHEN GARDEN.

Should frost prevail, every advantage must be taken of it to wheel manure and composts to the various quarters requiring it, and if they cannot be trenched in at once let them be laid in heaps at convenient distances and covered with soil. Ridged ground may also be occasionally forked over and knocked about to expose fresh surfaces to the action of the atmosphere. Collect as many leaves together as possible: they are invaluable for mixing with green manures for fermenting-purposes, as they not only correct their rank and violent fermentation, but preserve a more steady and uniform heat for a greater length of time. Those of the Oak are much to be preferred, as they resist decomposition the longest; Beech leaves come next; after these there is little choice. Surface-stirring amongst young growing crops of Cauliflowers, Cabbages, Lettuces, &c., must be as diligently followed up now as in the summer, when vegetation is more rapid; indeed there is no season when these important operations can be neglected with impunity. Frequent pulverisation of the soil acts as a great check to the penetration of frost in winter, and to the evaporation of moisture in summer. One indispensable condition is that the ground must never be trodden on after the operation is performed. *Endive*, continue to take up on dry days; also *Lettuces*, and store them in any dry airy shed; they will keep much better there than protected out of doors. If very severe frost come on, protect *Celery*, *Parsley*, and late *Endive* for spring use. *Potatoes*, plant a batch of the Ash-leaf, or any good early sort, in small pots for turning out into a pit, or into larger pots, in January. The Mushroom-house will serve to sprout them in. The first crop of forced *Rhubarb* and *Asparagus*, if growing under glass, should have a little air every fine day after they are started, the latter especially should be exposed to all the light possible. Keep up a mild steady heat, and prepare beds for second crops. *Sea-kale* should be kept dark and quite dry, as it is liable to damp off. In cutting the shoots leave the side

shoots for a second crop. Remember, the more slowly it is forced the finer and more tender it will be. Give air every mild day to young Cauliflowers and Lettuces under glass. A sprinkling of soot now and then will keep out slugs, and help to improve the growth of the plants.

FRUIT GARDEN.

Proceed with pruning Apples and Pears, taking those in the open quarters first, and afterwards the espaliers and wall trees. As soon as the quarters are done let the ground have a dressing of rotten cowdung or fresh loam, and afterwards dig them over for the winter; if the land is of a heavy nature leave it as rough as possible. Espaliers should be looked over after pruning, the stakes made good, and the trees again securely tied to them; where permanent iron-wire railing is used for espaliers a coat of mineral black or anti-corrosion paint should be laid on when the wires are dry before the trees are trained. Cherries, Gooseberries, and Currants have often their buds destroyed in severe weather by birds; take the opportunity of a damp day, and dust the shoots with a mixture of dry soot and quicklime sufficiently to cover the buds. We have found two or three dustings during the winter prevent in a great measure the ravages of these pests. Where the Raspberry grub is troublesome, give a good dressing of gas lime before digging the ground, taking care to apply it regularly about the base of the plants. The ground among fruit bushes should be dug very lightly, especially in the case of Raspberries, which have their roots near the surface, and it is better in all cases to dispense with digging where it cannot be performed without injuring the strong roots. Trees infested with scale should be loosened from the wall entirely, the bark well scraped, and painted with a mixture of soft soap, cowdung, and lime, taking care to well work the composition into the crevices of the bark.

FLOWER GARDEN.

Except where alterations are in hand, there will be little requiring attention here at present beyond the clearing up of leaves and putting the borders into neat order for the winter. Let this be done, however, with the least possible delay, in order that the place may look neat, clean, and as enjoyable as the season will permit; also sweep and roll the walks frequently, so as to keep these clean and smooth, for without hard, dry walks pleasure grounds are almost useless at this season of the year. Turf will also require rolling frequently to keep it smooth and firm, and prevent its being disfigured by worm-casts. If any of the turf requires levelling, take advantage of any leisure time which may occur to do so.

GREENHOUSE AND CONSERVATORY.

The winter flowers will now be making a splendid display in the conservatory, at least where they have received special attention through the summer to this end. The *Euphorbia jacquiniiflora* is one of the foremost of these beauties when properly cultivated. Unless, however, a most healthy root-action is maintained the leaves are apt to become yellow whilst the plant is in blossom, and this at once will spoil the effect. It requires a very moderate amount of water at this season. *Poinsettia pulcherrima* is a bold and effective conservatory plant, and indispensable at this time of the year. Well-grown plants of *Gesnera bulbosa*, or *G. lateritia*, are equally useful. This plant should be slightly pot-bound in order to blossom well early. *Gesnera zebrina*, under high cultivation, is a most beautiful winter flower, and equally desirable on account of the elegant markings of the leaf, which become very rich indeed in the stove. The old *Plumbago rosea* and *capensis* are still amongst our best plants at this period. In mixed greenhouses see that the young stock of *Heliotropes*, *Cyclamens*, and other flowers grown especially for winter, have nice light situations and regular attention as regards watering.

STOVE.

Many plants will now be sinking into repose here, and from such water must be entirely withheld. Of these may be named the *Erythras*, the *Clerodendrons*, the *Achimenes*, the *Gloxinias*, and various bulbs. These should have a shelf or division of the house to themselves forthwith, and it should be remembered that the *Gloxinia* family and the *Clerodendrons* are very impatient of low temperature; even when at rest they are not considered safe below 50°.

FORCING-PIT.

This is a good time to introduce the following:—*Rhododendrons*, *Azaleas*, *Persian Lilacs*, *Sweet Briars*, *Moss* and other *Roses*, *Ledums*, *Kalmias*, *Daphnes*, *Anne Boleyn Pinks*, and *Dutch bulbs*. Unless, however, they have received the necessary treatment as advised through the summer, it will be labour

in vain, and no mode of forcing or form of pit can compensate for this. The great secret of success, if the heat is wholly produced by fermenting materials, is to keep down accumulating damp and mouldiness by an almost constant ventilation, increasing the linings in order to raise the necessary temperature. Those who are fortunate enough to possess pits heated by means of hot water will of course pursue a somewhat different course.

PITS AND FRAMES.

Look well to store plants for next summer, and have sufficient protecting material always in readiness with which to cover them whenever the weather is unfavourable. As many plants suffer from drip at this season a careful look-out should be kept, and either the cause remedied or the plants removed. Take cuttings of *Chrysanthemums* as soon as possible. By so doing you insure a strong, healthy plant for next year; stop early, and keep a good foliage throughout the summer by attending to watering.—W. KZANE.

DOINGS OF THE LAST WEEK.

THE weather has been so changeable, from sharp frost to heavy rains, from clear bracing weather to a close, damp atmosphere of from 50° to 55° of temperature, that work had to be regulated accordingly. In frosty mornings much wheeling was done, to top mulch Strawberries, from old hotbeds, as alluded to last week, to clean what Strawberry-rows had not been quite cleared of runners, &c., and during the dry days a good deal of pruning was effected in bush and low standard fruit trees, preparatory to syringing them with thickish lime water, which stands the heavy rains wonderfully well. In dull damp days mowing was resorted to, as the grass has grown wonderfully late, and has only been retarded by the frosts, the thorough sweeping up being reserved for fine days, if possible, as the grass will longer suffer in appearance if brushed over on a frosty morning; and if this be done when it is very wet, whatever worm heaps or earth there may be on the surface will leave a blackish appearance until thoroughly washed off by succeeding rains. In wet days, as this day week, the work was confined to sheds and houses, picking off discoloured leaves, potting, packing esculent roots, placing Potatoes in small pots for future planting, looking over Mushroom-beds, and preparing straw frames for protection.

Straw Covers.—With the exception of wooden shutters, which we have never of late been able to have, there is nothing more effectual for covering glass sashes than straw covers. The mode of making them has been several times stated. Take three slips of wood from 3 to 4 inches wide, 1 inch thick, and as long as the frame, one piece for each side, and one for the centre. Place these square to suit the sash, and then nail on cross-pieces 8 inches wide, and half an inch thick, at each end, and similar pieces about 1 foot apart, from top to bottom. This reversed forms the frame for receiving the straw, which should be neatly put in, and kept firmly in its place by a cross-piece at each end, and a tar string from side to side, over each of the cross-pieces beneath, and securely fixed to them by tacks. The whole of the upper side of the cover may be secured by string, but we prefer, in general, one cross-piece of wood at each end above the straw, though the rain would go off better if there were merely a string; but then the end of the cover would not be so suitable for taking hold of when moving the cover off the glass, and putting it on. As a general rule, this covering and uncovering are best done by two men, and then a great number of covers can be taken off and put on very quickly.

It will be observed that the cross-pieces of wood on the lower side of the frame will keep the straw from resting on the glass, or rather the bars of the sash, and thus will keep a considerable body of air between the glass and the straw, which will still further arrest the conduction and the radiation of heat from the glass. To render this more effectual, in making such covers for pits and frames, the width of each cover should be such that the covers not only take in the space of the sashes, but the spaces between reserved for the rafters, if these are on the level, and thus the outside air is pretty well excluded.

In taking these covers off or putting them on—that is, partly sliding them up and sliding them down, the workmen must learn to keep the covers level, or they may knock a corner into the glass carelessly. With moderate care, there being no out-jutting straw below, there need never be a square of glass broken, the covers being much more safe in this respect than any loose protection, such as mats.

There is just one drawback to their use. If the sashes are from 5 to 6 or more feet in length, the covers, however carefully lifted off and on, must slide less or more on the sides of the sashes and the tops of the sash-bars, and that would soon wear off the paint that might be on them. To prevent this, a thin slip of wood, as a lath, may be tacked on the sides of the sashes, which will save the paint, and prevent the cross-pieces of wood beneath from touching the sash-bars, and thus, too, raise the straw farther from the glass. In such a case, we either run a slip across the bottom and the top of the sash, to make the cover more air-tight, or we place at back and front close in to the cover, oats of straw formed by tying straw in a round rope about 2 inches in diameter, and in eight-foot lengths. Such covers, with this cat, back and front, will keep out a great degree of cold, because they will prevent heat escaping.

Some time ago we noticed a case in point which surprised a few of the less initiated. There had been a sharp frost in the first part of the night, and a fall of snow towards morning, and a milder temperature, though cold, after daybreak. By eleven o'clock the snow was all gone from the roofs of houses and glass exposed, where the inside temperature ranged from 38° to 45°. These straw covers were left on at the front part of a house where the inside temperature ranged from 55° at night to 65° during the day, and the snow remained on the covers until night, nay, for two or three days, just as it had fallen, and with so much more heat under the glass. The straw proved itself such a good non-conductor, that though the outside of the glass felt warm to the hand under the cover, the heat could not pass through the straw, even to have the smallest effect in melting the snow, and this remained on a number of days. There is no better protection to be found than snow, and hence the superiority of such covers or frames instead of loose mats. Before the latter can be moved in a time of snow, the snow must be shaken or swept off, whilst, with such covers, whether of straw, asphalt, or wood, they may be carefully drawn down with their covering of snow, and slid up again when it is necessary to do so. One word more. What is worth doing at all is worth doing well. In looking over, mending, and fresh filling these frames with straw in wet days, we have not done the work so well as it might be done, because the straw was just what we could obtain, and that had passed through a thrashing-machine. Of course the straw had to be drawn as if for thatching, was soft and much bruised, and therefore baggy, and retentive of moisture. Even if thrashed by the flail in the usual way the straw would be left more whole, and when tied into bundles it would be no difficulty to cut off the greater proportion of the empty ears, which are so retentive of moisture. Straw procured in either way is, however, a poor substitute compared with that drawn from the sheaves in a barn, all the wheat heads kept together in little bundles and these heads then thrashed, or the heads cut off and thrashed out, without touching the straw with the flail. Good wheat straw thus treated is better for the purpose than the best reeds, as every tube of straw, unbroken is a good non-conductor, and on such a cover the rains never go farther than the surface. Except for such particular purposes, however, we suppose we must make up our minds to hear but little of the merry raps of the flail on a winter's morn. We have had covers so made with drawn straw that were in use for more than three years, and for at least seven and a half months out of the twelve. We have tarred the surface of these covers when finished, straw and woodwork, making the tar thin by heating it; but though the surface was thus rendered still more impervious to water, we think this advantage was counter-balanced by making the straw more brittle. A cover thus made of drawn straw we consider better in every way if only half an inch thick, than one made from machine-dressed straw, if fully 1 inch thick. Then the first would be light in the wettest weather, because it would never be wet through, whilst the second would hold moisture in its broken and bruised tubes. Farmers who may make such covers for their pits and frames, or who may thatch hurdles for protection for lambs and other purposes, if they wish them to be lasting, may well draw as much wheat straw as they want, and cut off the ears without bruising the straw. The additional labour will not be lost. The greater neatness and wear will be more than a counter-balancing advantage.

KITCHEN GARDEN.

See remarks for several weeks past as to out-door and forced vegetables. The heavy rains have battered down the ground considerably, and if frost at all severe should come, the compactness of the soil will cause it to be more felt amongst all

young crops, and therefore as soon as dry enough it will be advisable to make the surface loose and open, either with a hoe or the points of a fork. Peas and Beans may also now be sown; for ourselves we generally sow on turf and tiles, and plant out in spring, which saves much watching and hunting after vermin enemies. On light soil with a south exposure Radishes and Carrots may be sown and protected; but where it can be spared it will give less labour at this season to sow them under glass. We know of nothing more profitable than a bed of Early Horn Carrots, or of the small Dutch, sown about the middle or the end of this month, with a slight hot-bed beneath them, such as was alluded to last week. As a little matter, we mention that the Sea-kale put in pots and set over a slight hotbed in the Mushroom-house was coming on faster than we wished it, and therefore the pots were moved and set on the cool floor of the house, where the average temperature would be about 55°. This confirms what was stated the other week, that in many cases it is preferable to put the roots of these into pots or boxes instead of into a bed at once, to be covered with a box. Where a good supply is wanted the latter plan may be adopted; but when the roots are placed in a moveable pot or box we can have the cuttings more under command.

Mushroom-beds.—Our litter from the stables became so wet before we could obtain it, as to be unfit for the above purpose. When great and regular crops of Mushrooms are wanted, the gardener must have the privilege of obtaining droppings before they are exposed to rains. For want of better material we have often made our beds of stubble and tree leaves, with two or three inches of dung on the surface. Such as poor men and boys collect in dry weather from the highway is very good for the purpose. We would have made another piece in the Mushroom-house if we had had the opportunity, but we must wait a little for material. The beds in the lean-to, low, thatched shed, have done well, and the last part is bearing profusely. The bed had about 6 inches of dry litter over it; but the front or open part was a little protected with some of the worst of our straw covers. As we wanted these repaired to go over glass at night, we placed some hurdles along instead, with laurel branches drawn through them, which will break the current of air, and added 2 or 3 inches more covering of dry litter. As a general rule, we gather more from these shallow beds in the shed than from similar shallow beds in the Mushroom-house; and if we can keep mice, rats, and moles from burrowing, we are little troubled with snails and woodlice. In fact, the latter are not troublesome in the Mushroom-house until the spring.

FRUIT GARDEN.

See last week as to pruning, dredging with lime, &c. Looked over Grapes in late house, removing mouldy berries when seen, and taking away the yellow leaves. Old sashes have been placed over the borders to help to keep the rains from them. It would have been better if this had been done in September, but we could not spare them the sashes. For all such purposes wooden covers, or asphalt ones on frames, are very useful. When borders are outside it is much against the Vines when these borders are soaked with cold rains before resorting to early forcing, and it is very unfavourable to the keeping of late Grapes when the whole system of the plants is charged with moisture.

Grapes when dry will not stand much frost without being injured, hence a little fire will be necessary even in dry frosty weather. In dull wet weather, as on Tuesday and Wednesday, a brisk fire should be made in the morning, and as soon as the heat begins to tell let there be small openings for ventilation back and front, that there may be a circulation of air all through the house, the air being rendered dry by the artificial heat, the dry floor and stages, and the absence of everything requiring moisture. In mild weather a little air at the highest point of the roof, if only half an inch, will be of advantage all night. In very cold weather it is as well to shut close at night, and dispense with fire heat as much as possible.

All houses intended for early forcing, with borders outside, should have these borders securely protected from the changes of our climate. The best way to do this is to cover early in autumn, say in the middle of September, with litter or fern, and then keep off rains by wooden covers, canvas, thatching, &c. In fact, the early covering of borders and securing them from autumn and winter rains, is the best system to adopt with late Vines and early ones as well. Many bunches of late Muscats might be without a moulded berry, or a shrivelled one at Christmas, if the cold rains after the 1st of October were

excluded. We mention this more particularly, as we do not believe there is yet one gardener among thirty who can obtain the means so to protect his outside borders in which the great bulk of the roots are placed.

Inside Borders.—A correspondent last week wonders these are not more general for Peaches and Vines, and is surprised they have never been recommended for Vines, as they would render all outside covering of no consequence. They have been alluded to and recommended many times in this serial alone, but, perhaps, not so particularly and prominently as they ought to have been. Where a good wide house is to be devoted almost entirely to Vines, we can think of no better plan, as the whole plant is so thoroughly under control, and it would be an easy matter by cross air-drains to have a circulation of heated air passing under the border without any means of heating there; but even without that the dry soil of the house, when forcing commenced, would soon partake somewhat of the internal temperature, and that could be assisted by watering with heated water—say at 75° or 80°. Even when the border is chiefly outside, we have recommended, where practicable, that the Vines be planted inside, and we can do so from painful experience, knowing something of the annoyance and disappointment of finding some of the best Vines almost totally destroyed by mice and rats attacking their outside stems and roots. We have had too many a fine bunch of Grapes mangled by these marauders finding their way into the house by the holes below the wall-plate. We recollect of a case in which, after trapping and poisoning a lot, we felt we should be worsted until we wrapped each stem in waterproof material, packed the holes firmly with moss, and then daubed each opening and all along below the wall-plate liberally with tar. So long as that remains moist no mouse or rat will go near it, but they will drive a shaft and try to find a way in underneath it. They will rarely attempt to enter by arches, the crown of which is from 6 to 9 inches below the wall-plate. Hence, for security against all such vermin, it is better to plant inside and let the roots go out, and it is better still to have a solid wall and all the roots and stems inside, so that nothing shall find its way into the house except through the openings for ventilation.

One reason why we have not more recommended inside planting in the small, single greenhouse, vinery, and everything, of the keen amateur, who, besides cramming his house to repletion with plants in pots, wishes also to have Vines on the rafters, is, that the house being almost always full of plants, the dropping and splashing from the watering of these plants is apt to bring the soil beneath the stages into a puddled, unhealthy state, and more especially when, owing to the number of plants in winter and spring, and the dense shade of the Vines in summer, scarcely a ray of sunlight ever strikes the surface of the inside soil, and thus one source of fertility is withheld. We may be told that such inside shaded soil could be no worse off than soil out of doors covered with flagstones, tiles, pitched pebbles, &c., underneath which the roots of fruit trees obtain all that is necessary to make them continuously fertile; but we do not think the cases are analogous, because in the latter the fresh air of the atmosphere and the heat from the sun will penetrate to the roots, independently of such covering. In a vinery, where sunlight can reach the soil inside, owing to the plants beneath the Vines being set thinly, so as not to present a thick shade between the soil and the sun, we presume from what has passed under our experience and observation, that inside borders will be the best. When we have an outside border, we prefer the surface to slope to the front rather than to be level, not so much to throw off surface water, as to command more of the heating rays of the sun in summer.

We might soon go beyond our depth, by speaking of the chemico-electrical effects of sunbeams, and after all do little more than reveal our ignorance. Yet the simple conviction remains, that light and sunbeams do that for our soils which nothing else does in the same way.

Except when very wet, no better weather could be found for making fresh borders, planting fruit trees, pruning, and nailing, as respects which see previous numbers. Since pruning and tying our Gooseberry bushes together, and syringing them with lime whitewash, we have seen no signs of the birds meddling with them. We used to wash with a composition, adding clay, cowdung, and soot to the lime, and certainly the trees were not so glaring to the eye as when done with lime alone; but we think the lime stands better than the mixture, and the white look of the trees may act as a repellent. The trees have had nearly forty-eight hours rain, sometimes very heavy, and a

good portion of the lime still clings firmly on. We believe hardly a trace would yet have been washed off if we had had the lime fresher. Ours is merely chalk lime, and has been slackened a long time, and, therefore, is not like that fresh burned. We mix it with water to resemble thin whitewash, and then as the quickest way squirt it on the bushes and trees with an old syringe that is supplied not with a rose, but a single nozzle jet, and the point of the thumb or finger regulates the discharge. When the lime is fresh the fingers should be protected with an old glove, or a thumb-coverer, for if at all up to his work, the labourer need not let his face or clothes be marked. A new beginner, however, had better use an old sack or overall until he become used to it, for if the lime is fresher and stronger than ours, the drops that light on clothes would be apt to take away the colour of the cloth.

Other matters, as cleaning, potting, &c., much the same as in previous weeks, and we shall allude to them more in detail presently.—R. F.

COVENT GARDEN MARKET.—DECEMBER 8.

THERE is a slight improvement in the amount of business doing, but as we are so well supplied it is scarcely felt, and many articles have to be carried forward to another day. There is a steady trade for good descriptions of Potatoes at last week's advance.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	2	0	3	0	Melons each	2	6	5	0
Apricots doz.	0	0	0	0	Nectarines doz.	0	0	0	0
Cherries lb.	0	0	0	0	Oranges 100	5	0	18	0
Chestnuts bush.	10	0	18	0	Peaches doz.	0	0	0	0
Currants ½ sieve	0	0	0	0	Pears (dessert) .. doz.	3	0	6	0
Black doz.	0	0	0	0	Kitchen doz.	2	0	4	0
Figs doz.	0	0	0	0	Fine Apples lb.	3	0	6	0
Filberts lb.	0	0	0	0	Plums ½ sieve	0	0	0	0
Cobs lb.	0	6	1	0	Quinces doz.	3	0	4	0
Gooseberries .. quart	0	0	0	0	Raspberries lb.	0	0	0	0
Grapes, Hothouse.. lb.	3	0	6	0	Strawberries lb.	0	0	0	0
Lemons 100	5	0	10	0	Walnuts bush.	10	0	20	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes each	0	0	0	0	Leeks bunch	0	8	0	0
Asparagus bundle	0	0	0	0	Lettuce per score	1	0	1	6
Beans, Broad.. bushel	0	0	0	0	Mushrooms ... potter	1	0	2	0
Scarlet Run. ½ sieve	0	0	0	0	Mustd. & Cress, punnet	0	2	0	0
Beet, Red doz.	2	0	3	0	Onions per bushel	2	0	3	6
Broccoli bundle	1	0	1	6	Paraley, doz. bunches	2	0	3	0
Brus. Sprouts ½ sieve	2	0	3	0	Parasips doz.	0	9	1	3
Cabbage doz.	1	0	2	0	Pears per quart	0	0	0	0
Capicums 100	2	0	4	0	Potatoes bushel	2	6	4	6
Carrots bunch	0	4	0	6	Kidney doz.	3	0	4	0
Cauliflower doz.	2	0	6	0	Radishes doz. bunches	0	6	1	0
Celery bundle	1	0	2	0	Rhubarb bundle	0	0	0	0
Cucumbers each	0	9	1	0	Savoy doz.	1	0	2	0
Pickling doz.	0	0	0	0	Sea-kale basket	3	0	4	0
Endive doz.	2	0	0	0	Shallots lb.	0	8	0	0
Fennel bunch	0	8	0	0	Spinach bushel	2	0	3	0
Garlic lb.	1	0	0	0	Tomatoes per doz.	0	0	0	0
Herbs bunch	0	8	0	0	Turnips bunch	4	0	4	0
Horseradish .. bundle	2	6	4	0	Vegetable Marrows dz.	0	0	0	0

TRADE CATALOGUES RECEIVED.

Thomas Sampson, Yeovil, Somerset.—*General Catalogue of Nursery Stock.*

Smith & Simons, 1, Buchanan Street, Glasgow.—*Descriptive Catalogue of Hybrid Gladioli.*

TO CORRESPONDENTS.

.. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

QUEEN ANNE'S POCKET MELON.—We have no seeds left of this Melon, and shall have no further supply. A correspondent asks for "King Charles's Pocket Melon," which he grew many years since. We never heard of it.

HEATING (W. F.).—Heating a house by a chamber under it would require a much larger consumption of fuel than if the pipes from a boiler, and the flue from the furnace, went directly round the inside.

VINE BORDERS.—At page 490, first column, second line from the bottom, for "4 inches" read four loads.

STOVE (K.).—We employ Hay's Constant Stove.

GARSTON VINEYARD (Peter Putty).—The statement was correct. If you have a similar nursery we will readily give it a similar notice.

GARDENERS' SOCIETY (The Committee).—The last we heard was that it had divided into two parties.

PEARS FOR A NORTH-EAST WALL (A North Devon Subscriber).—Your situation being an exposed one, the following are likely to answer your purpose:—Thompson's, Winter Nelis, Forelle, Moccas, Knight's Monarch, Doyenné Goubault, Bergamotte Esperen, Beurré Sterckmans.

APPLES AND PEARS FOR ESPALIERS (Bocaster).—The following are all dessert fruit, and should be on Paradise stocks. Apples: Ashmead's Kernel, Cockle Pippin, Cornish Gilliflower, Downton Pippin, Joannet, Kerry Pippin, Margil, Nonpareil, Pittaston Nonpareil, Sturmer Pippin, Summer Pearmain. Pears: Doyenné d'Été, Jargonelle, Fondante de Cuerné, Williams's Bon Chrétien, St. Michel Archange, Beurré Hardy, Doyenné du Comice, Soldat Esperen, Henriette, Hays's Victoria, Glou Morceau, Bergamotte Esperen.

ACACIA LONGIFLORA INFESTED WITH SCALE (J. A.).—You may apply sweet oil with a camel's-hair pencil or small brush to the plants affected with scale; or dissolve 4 ozs. of camphor in half a pint of spirits of wine. You will thus obtain a powder, to which add half a pound of Scotch snuff, half a pound of ground black pepper, and half a pound of flowers of sulphur. Mix well together and keep in a closely-stoppered bottle, and with the powder occasionally dust the parts affected. It will destroy the white scale on Orchids and Pine plants.

PRUNING PEACH TREES (A. H. S. W.).—Your best plan, as the summer pruning has been neglected, will be to cut out the old wood and train in young wood at 9 inches or 1 foot apart. As you purpose treating them on the spur system, we would not shorten the shoots left, unless the trees are deficient of young wood; if they are so deficient, cut them back to half their length. The pruning would be best deferred until February. The shoots are much too close now for any kind of pruning, but thin them well. Next year stop all the shoots at the third leaf, and at every leaf after the first growth—that is, the shoots that come from the first growth. Make an exception of shoots required for extension, and to train-in to cover the wall, and do not stop them or take out their points, but stop at the first leaf any laterals or side shoots coming from them. Never use a knife afterwards at the winter pruning, except to remove a worn-out branch and replace it with young bearing wood.

CYPERUS ALTERNIFOLIUS VARIEGATUS CULTURE (An Inquirer).—The pot in which it is grown should be drained to one-third its depth, and on that place a thin layer of sphagnum or cocoa-nut fibre. Fill to within an inch of the rim with very sandy peat and turfy loam in equal parts, introduce the plant, and fill up with pure sand. Keep the sand moist, and afford a temperature of 55°. In spring and summer afford a somewhat higher temperature—from 60° to 65° by night, and set the pot in a saucer of water, or keep the sand wet. Give plenty of moisture and a moderate amount of air. The plant will grow freely. In winter keep the soil moist, but not wet. The points of the leaves die off owing to the atmosphere being too cool, and the soil not being open enough; it can hardly have too much sand in it.

TRANSPLANTING A LARGE PORTUGAL LAUREL (H. C.).—The Portugal Laurel may be transplanted, care being taken to remove it with a ball; but if you cannot obtain a ball you may remove it and out in the head considerably next spring, or you may leave it where it is and cut it down as much as you like, for no evergreen shoots better from the old wood. Out it back in April before it begins to grow.

COVERING THE STEM OF A ROSE (Idem).—The stem of the three-foot standard should not be covered with soil, or be planted so deeply as the bud. Plant it in the ordinary manner, not covering the stock more than 6 inches above the roots.

VINES PLANTING (Pheasant).—Your proposed mode of making the border is good as to the layer of stones, from 9 inches to 1 foot thick, at the bottom; then put in a layer of sods 6 inches thick, a sprinkling of bones upon the sods, a six-inch layer of turf, another sprinkling of bones, another layer of sods, bones, and then a nine-inch layer of turf. Plant the Vines in soil from an old Cucumber-bed, in quantity just enough to plant the Vines in. The bones can be had of any marine-store dealer. No license is needed to dispose of Gold, Silver, and Versicolor Pheasants. The whole of the volumes, except Vol. II., may be had, nine vols. at 8s. 6d. and one vol. at 12s.

HOUSE FOR FERNS (Rusticus).—Your house, the temperature of which is never below 50°, will answer for all greenhouse Ferns; and many of the so-called stove Ferns will winter safely in a temperature of 50°, if the soil is not kept very wet. We presume that you can command moisture, and have means for admitting air; though little is required by Ferns, yet a certain amount is necessary to grow them strong and healthy.

LIQUID MANURE (A. B. A.).—Stable manure is not fitted for making liquid manure for conservatory use, its ammoniacal fumes are too permanently offensive. Half an ounce of guano to each gallon of water; or sheep's dung, a peck to thirty gallons, will make a liquid manure suitable for your plants. If you enclose four postage stamps with your direction, and order "Manures, or Muck for the Many," you will have it sent free by post. It contains much that you would find useful to you.

DRACENA TERMINALIS FLOWERING (E. R. H. M., Notts).—It is not usual for this plant to flower, because it is stopped and cut down whenever disposed to become too tall, in order to have a dwarf compact plant. Its flowering is an uncommon occurrence, except in botanical collections.

SWEEPING A LAWN DURING FROST (One Anxious to Learn).—The sweeping of a lawn whilst the ground is frosted will tend to destroy moss, but it is not a desirable proceeding. Sweeping in frosty weather is, however, one of the very best ways of destroying moss and small weeds on gravel walks, the walks being well swept after the frost is gone.

UTILISING A SMALL PROPAGATING-HOUSE (H. L.).—Over the flue in the front of the house you should have 9 inches of rough gravel or broken bricks, 3 inches of broken pots or fine gravel, and on this from 8 to

6 inches of sand or sawdust; the first if you strike the cuttings without pots, or, if in pots, you will require something to plunge the pots in. The seeds would be best sown in pans. The cuttings may be struck in the sand, but much more conveniently in pans, and should be removed from the case when struck, in order that they may be hardened off. You may commence striking cuttings as soon after the middle of February as you can obtain them, and the seeds may be sown early in March, but all will depend on the kinds. You may grow either Melons or Tomatoes against the back wall, but not both; and you cannot have Vines in front, training the canes to the front and roof, and Melons on the back wall. It would be best to devote the house entirely to Melons or Vines, whichever you prefer, but you may have Vines in pots trained to the roof at 5 feet apart, so that Melons could be grown in pots between them. You may have Tomatoes in pots trained to the back wall. Your friend cannot have tasted Scarlet Gem Melon, or if he had we think he would have found it inferior to no Green-fleshed Melon in flavour. Beechwood and Golden Perfection are good Green-fleshed Melons.

THRIPS ON AKALEAS (S. C. O.).—We never have any trouble in destroying this pest. It yields readily to tobacco smoke. We fear you have not filled the house sufficiently with smoke to destroy it. Our advice is, Choose a calm evening, shut up the house quite close, and have the foliage of the plants dry, then fill the house with tobacco smoke by burning the best tobacco-paper without creating a flame until a plant cannot be seen through the glass from the outside. Keep the house close next day and sprinkle the floors through a syringe to produce a moist atmosphere. On the second night after fumigating, repeat the smoking as on the first night. Keep the house close during the following day, and on the next syringe the plants forcibly on the under side of the leaves. In a week fumigate again. Be on the look-out, and whenever an insect is seen fill the house at night with tobacco smoke. The house is kept too dry, too close, and too warm, otherwise the plants would not be so severely attacked with thrips as yours evidently are.

RAPHANUS CAUDATUS (J. B.).—It may be sown and cultivated like the common Radish, but the plants must be a foot apart. Queen Anne's Pocket Melon may be sown and cultivated like other varieties of the Melon. We shall have directions for sowing Viola cornuta in our next Number.

GOLD FISH (W. H. H.).—If the pond is frozen over, a hole should be broken through the ice daily.

BOOKS (J. W. W. B.).—London's Self-Instructor, published by Messrs. Longman, will teach you the elements of drawing gardens, &c. (Amateur).—The only book on market gardening is Cuthill's. The Covent Garden Market prices are the retail prices.

VINEY BORDERS—ORCHIDS IN VINERY (Forester).—See what is said about inside borders in "Doings of the Last Week." Still, if you take plenty of flow-pipes for top heat, you can do no possible harm in returning the pipes in the rubble below the border. You will thus heat the soil gently, and will only require to be a little more particular in watering. Orchids growing in a vinery, unless they be the very hardiest, will have to be removed to another house or pit whilst the Vines are at rest, and when the house would barely average 40° at night.

CUCUMBERS AND MELONS WITH VINES (J. Chadwick).—For your lean-to house, 18 feet by 10 feet, with a 10-foot back wall, a cast-iron saddle boiler 24 inches in length, 30 inches in width, and 16 or 17 inches in height, will suit you, and so will a cylinder of about 23 inches in height, and 18 inches in diameter, costing at first hand about £8 15s. A less boiler would do if you did not contemplate winter Cucumbers. In such a house you can grow Cucumbers and Melons, and Grapes too, if you wish; but you cannot have Grapes and Cucumbers in the same plane. You could have Vines in pots in an open place, and by keeping your Cucumbers 2 feet from the glass you might introduce three Vines from the outside, spur prune them, and take three rods, 15 inches from the glass, and yet the shade would not so much interfere with the Cucumbers below. To make the best of the house, however, for the three things we would have one end for Cucumbers, the middle for Melons, and a distinct part for Vines, and then all could have justice.

GARDENERS SELLING PLANTS (Mew et Twiss).—See what was said lately as to gardeners giving or exchanging cuttings. Gardeners have no right to sell a plant, flower, or seed without the knowledge or sanction of their employers. When they do so openly it may be inferred either that they have that right, or rather that they do it as a matter of duty to their employer. In some large establishments this selling goes on to a large extent, the selling doing much towards covering the general expenses, and frequently so far, when things are sold below the market value, interfering with mercantile arrangements. Whenever selling is resorted to in any underhand way by a gardener or any other servant, we need not say more than that the whole system is dishonourable and dishonest in all connected with it, seller and buyer alike.

FILBERT STUBS (Idem).—You cannot do better than treat your cut-down Filberts as you would a Gooseberry bush. The small twigs that will be produced the second season will generally be well stored with fruit-buds.

BOILERS (W. Turner).—If well set, and well worked and regulated as to draught, there is but little difference between boilers as to securing heat and economising fuel. In large establishments where several houses are heated by one boiler, we might prefer an upright tubular one to any other, and chiefly because it would be easily fed from the top. For such a house as yours, 80 feet by 14, and which may be increased to double its length, we would just as soon have a cast-iron saddle-back as any other, and if we chose an upright one, we would on the whole prefer a cylinder to a tubular boiler. Somehow these tubular boilers are more subject to accidents than cylinder or saddle-backs. We know of a case where several large ones have been replaced one after another in a few years, and where one on the simple locomotive-boiler principle is to replace a large one again. A cylinder about 34 inches in height, and 18 inches in width, will suit you. If there is danger of water in the stovehole, we would prefer a cast-iron saddle-back 24 inches long, 19 inches wide, and 16 inches in height.

VINE-BORDERS (Idem).—It does not matter whether the Vine-borders are made in layers or all at once, further than this, that if made in layers, each layer may be more consolidated by heating, and the border afterwards would sink less. If made at once, allowance must be made for the sinking.

CATERPILLARS ON FERNS (*De Fols*).—As the caterpillars are those of a species of *Noctua* which ordinarily secrete themselves in the earth, we should rather think they were introduced into your stove in the egg state in the earth. Search carefully at the roots of your plants, laying slices of Turnip or Potato there beforehand as traps for them, and continue your night watch.—W.

NAMES OF FRUITS (*Brassica*).—*Annes*: 1, Dumelow's Seedling; 2, Antuma Pearmain; 3, Calabasse; 4, Emperor Alexander; 5, Sussex Scarlet Pearmain; 12, Scarlet Pearmain; 13, Dumelow's Seedling; 14, Relette du

Canada; 17, King of the Pippins; 18, Gravenstein. *Pears*: 4, Duchesse d'Angoulême; 6, Beurré Diel; 7, Baronne de Mello; 9, Vicar of Winkfield; 16, Beurré Diel.

NAMES OF PLANTS (*S. F.*).—A *Citrus*, but we cannot from a leaf say which of the numerous varieties it is. (*A Subscriber*).—1, *Phymatodes normale*; 2, *Polypodium appendiculatum*; 3, *Asplenium caudatum*. (*Reticus*).—1, *Cheilanthes vestita*; 2, *Blechnum*, insufficient for determination; 3, *Asplenium cicutarium*; 4, *Cincinnatia flavens*; 5, *Pellaea ternifolia*; 6, *Pellaea hastata*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending December 8th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 2	29.798	29.747	50	25	48½	48½	S.W.	.08	Hazy, with slight drizzle; overcast; rain; frost.
Mon. . . 3	29.784	29.743	55	48	48½	48	S.W.	.10	Overcast; rain; drizzly; rain.
Tues. . . 4	29.638	29.669	56	50	44	44	S.W.	.14	Rain; overcast and boisterous; warm S. wind; flying vapour.
Wed. . . 5	29.739	29.745	56	44	45	45	S.W.	.48	Densely clouded; rain; wet throughout and rather boisterous.
Thurs. . 6	29.854	29.529	57	45	46	46	W.	.16	Rain; cloudy; rain; boisterous at night.
Fri. . . 7	29.717	29.468	51	39	47	47	W.	.00	Boisterous and overcast; fine at night.
Sat. . . 8	29.423	30.136	49	30	47	47	N.W.	.00	Clear; cloudless; very fine; frosty at night.
Mean	29.868	29.718	53.48	37.38	45.14	45.07	..	0.96	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

WHO SHALL DECIDE WHAT IS BEAUTY?

DURING the last few weeks I have been sometimes amused by, and sometimes vexed at, "NEWMARKET," for sweeping out of the hen-house nearly every occupant to make room for his Game, and I feel that I must say my say.

At first I thought "NEWMARKET" must be a wag writing strange notions for a "lark,"—as it were throwing stones among other people's pets, just to enjoy the cackling, fluttering, and quacking of the ugly ducklings, &c. Here I learned my head upon my hand to think over what had been written by him, and in reply to him, and falling into a kind of day-dream, methought the proud black prince of Spain drew up his majestic form and muttered to himself, "No great beauty—insipid indeed;" then he added, "Newmarket, racehorses, and cock fights," and he laughed a quiet laugh. Then the Malay gladiator with bated breath was heard to hiss, "Most worthless, cowardly, coarse! Fish! He has never visited our peninsula, or dined with our Persian friend." Then the portly Dorking said quietly, "So we are ugly, heavy, clumsy, insipid, too much cried up, eh? Is 'NEWMARKET' a man with only one idea, or is he wiser than all the poultry world beside?" Here came the broom again, and swept away the Cocksins and Brahma Pootras at one stroke, for being "large, awkward, heavy, and clumsy;" and amidst the clatter would be heard additional reasons for ousting them—viz., "Quite unfit for table, coarse, yellow-fleshed, too much offal;" while from among the rolling mass of heads, legs, and wings just ejected came hoarse screams for Miss Martineau, &c. A little Silver-spangled Hamburg hen, mantling with offended pride, tossing her little head, said, "Beauty eclipsed! Pooh! pooh!" whilst the Bantams were too full of their own importance and too self-satisfied to notice their neighbours' little troubles.

Here I remembered that when I had read the letters from "G. R. B.," the "RECTOR," and others, and had noticed how kindly they put "NEWMARKET" right, I said, Now we shall have an explanation from friend "NEWMARKET" if he is a man, and "Y. B. A. Z." says he must be a man; but NEWMARKET reminds me of Miles's boy when a certain lord wanted him to alter the Derby day, because the parliament men would not be at liberty. He said, "My lord, alter the course of the sun, stop the falls of Niagara with a pitchfork, convince my old woman on any subject on which she has had her own think, and then, and not till then, attempt to alter the Derby." It is evident "NEWMARKET" has had his own think. I conclude "NEWMARKET" is proof against the magic of kindness, and is like the owl, who was held to be the wisest of all the birds; but so perverted was his sight, that what was sunny to others was darkness to him, and his cry is, "It is a dark and dismal [poultry] world, and there is nothing good [but Game] in it." And when the skylark invited him to soar upwards and look down upon the beauty of the earth, he found it impossible to make a skylark of an owl.

* "Y. B. A. Z."

One author, whose work I have before me, writes, "I consider the Cochin a more beautiful bird, and capable of comparison with the most graceful and high-coloured of our poultry. Its exquisite feathering and lovely tints, from the palest buff to deep orange, make the bird peculiarly a lady's pet. All must appreciate its massive build, small head, rich full hackle, and majestic carriage—true types of the high-caste Cochin." Another writer says of Hamburgs, "This race is very elegant in form and graceful in movement. Lovers of bird beauty linger before specimens of variegated Hamburgs, enraptured over perfection of pencilling, spangling, barring, and lacing, and clouding, tinting and blending. Gold, silver, brown, black and rich red, with marvellous nicety of finish in the line and marking of each separate feather, are delightfully contrasted with blue legs, brilliantly white ear-lobes, and thick vermilion combs of manifold spikes." So after all it seems to be only a matter of taste; and if "NEWMARKET" chooses to keep kissing his cow, I don't know why the ladies he slighted need be offended—they have no lack of admirers.—TRENT SIDE.

MALAYS AND "Y. B. A. Z."

HAVING bred Malays when a boy of eleven years old, in 1831, and for a year or two afterwards, I am well enough acquainted with them to discuss them a little. I must reiterate my well-considered expressions about them. I consider their flesh to incline to a brownish yellow when cooked, and they are, in my opinion, the worst of poultry for the table. I think they "truss up" badly as well. In my opinion they possess not one whit more courage than any other sort of poultry. The false reputation that some people have given the Malays for courage, arises in my opinion from their having a tendency to bully smaller and weaker poultry than themselves. They have been tried with steel and will not stand it at all, but soon "find a corner." They have been crossed with small and weak strains of Game fowls to give bone to them, and the cross has resulted in an utter failure as to any increased courage, and has only given a clumsy slowness.

I crossed my Malays with an Indian Game cock brought by an uncle of mine, then a Captain in the Royal Artillery, from St. Helena, while on his passage from the Mauritius to England. This cross made them rather gamier. The Indian Game were yellow-eyed Black-breasted Reds, and yellow-legged. The Malays and Hindoos never fight the Malays at all, as Malays are much too long in the shank to use their spurs with any effect, and are much too clumsy for it. The Malays and Hindoos fight their own Indian Game fowls, a far different bird from the Malays, which, like the Cocksins, are only the common fowl of the country. Malays are never hard-feathered, but are coarse, loose, long, and weedy in feather. None but the Game-breeders know the true, hard, close, Game feather. The *Gallus Sonneratii* is often fought in India, but is in no respect like the Malays. I have known an instance of a fine Malay cock being driven quite out of a farmyard by a fine, red-coloured, red-eyed, white-legged barn-door cock, and afterwards killed by him. I also know another instance of a large,

strong, barn-door cock of the same breed being struck dead in less than three minutes, by a Ginger Red Game cock of half his size and weight. So much for Malays fighting. My Malays were very quiet birds, but I keep none now.—NEWMARKET.

BIRMINGHAM POULTRY SHOW.

"EIGHTEENTH Annual Exhibition." There is a history in those three words. For eighteen successive years there has been a treat in store for those who take an interest in these matters, and it is looked forward to just as the Derby and Christmas times are. It has appealed to us through our sympathies, and has found response till we have identified ourselves with it. To miss the annual Exhibition at Bingley Hall would be to amputate a pleasure; and so in fine and bad weather, in good and bad times, whatever may be the result of the ironmasters' monthly meeting, whether iron is up or down, whether war gives an impetus to the gun trade, or peace makes it languish, like "Master Walter," there it stands, and none of the many thousands who are in the habit of attending ever fail.

But there must be a cause for this success. Royal roads are scarce. Those who direct this great meeting are men of progress. Every year we have new arrangements, and each change would seem to be an improvement. People accept them in the proper spirit, testifying confidence in those who direct: hence the success of the undertaking. It had small beginnings, and the subject was not understood. To let well alone is often wise; but in many cases it is wiser to profit by experience, and to adopt things that are manifest improvements. The Committee have done this. The old pen of cock and three hens has disappeared to make room for rows of single cocks and pairs of hens and pullets. The change has been progressive, and after the experience of this Show, a success.

The last change of all is the greatest. Many had misgivings. It seemed a pen of poultry could not consist of less than a cock and two hens or pullets; others favoured it to encourage and to suit purchasers. It was an old complaint, that in buying a pen it was always or generally made up in the chicken classes of the most unfavourable of all elements—a brother and two sisters. Formerly it was a grievance, that in order to buy a cock it was necessary to buy two pullets or hens, and *vice versa*. Then hen and pullet classes were introduced, and then single cock classes, to meet the convenience of purchasers. For 1866 the Poultry Committee, sufficiently able and versed in the subject to originate, and strong enough to carry out an idea, determined all classes should be made up of pens containing either a single cock, or two hens or pullets. It certainly caused dismay in the poultry world when it was announced, and the constant inquiry, "Have you seen the Birmingham list?" was accompanied by a slow, melancholy shake of the head. One who exhibited a pen of Bantams now and then, said "he should withhold all his entries;" while another, who, in the middle of the Show and in the course of a two-minutes conversation, finds time to tell you "he always shaves with cold water, and for twenty-four years has never missed going to bed as the clock struck ten," declares all changes to be mistakes, and anticipates the ruin of the Society. Few approved, and even friends lamented the certain falling off there would be in entries, and the diminished attendance that would be the result. What was the result? Entries of poultry, 1897; of Pigeons, 418; forming an unparalleled show of 2815 pens, with an attendance that hardly felt the loss of the fat cattle as a means of attraction.

We have dwelt at length on this great change, for it is one. Exhibitors can tell the difficulty of making up a pen, and purchasers can rejoice over the opportunity of buying only what they want. The single cock or the two pullets would seem to be within reach of all, and writing while 1866 is still open, we are looking for a larger entry in 1867. It cannot well be otherwise, because every change in the pens is coupled with an increase in the prizes offered for competition.

Although mere weight cannot determine the merit of a *Dorking* cock, yet, as one great element of success, and one of the desiderata in all food-producing classes, the Judges determined to weigh the principal pens, which were as follow:—11½ lbs., 11 lbs., 10 lbs. 5 ozs., four of 9½ lbs., many of 9 lbs. The heaviest bird in the class was Capt. Lane's, the best conditioned Admiral Hornby's, the best of all Mrs. Arkwright's. The same lady took the lead in young cocks. The prize list and the commendations already published will give the names, and it will save both space and time if we pass the classes in review, mentioning the principal objects and results of each. Thus, the weights in the cock class, for birds of 1866, were 9 lbs. 3 ozs., 9 lbs., 8½ lbs., 8½ lbs., 8½ lbs., and many of 8 lbs. We were somewhat disappointed, not in the average weight of these classes, but in that of the successful pens. We think we have seen them heavier, and we are sure all will agree with us when we say they do not hold their proper position when compared with the hens, which weighed in Admiral Hornby's case 17 lbs. 12 ozs., while Mr. Hustler's reached 17 lbs.; the others were 16½ lbs., 15½ lbs., and 15 lbs. The pullets weighed 14 lbs., 13½ lbs., and many 13 lbs. It is worthy of remark in this class, the heaviest bird had travelled from Scotland. There is no doubt it is difficult to exhibit old Silver-Gray cocks. We should be almost tempted to believe the white spots on the breast and the silvering of the sickle feathers of the cocks are the snowy witnesses of age, and inseparable from it. The Silver-Gray *Dorking* class is a revival. It

was difficult among the adults to find a sufficient number of prize birds; but the Countess of Dartmouth's would have been distinguished anywhere, and in the face of any competition. The pullets of this strain are very beautiful, and fully justify the favour they meet at the hands of the ladies of the aristocracy. The White *Dorkings* were very good; but a few names always take these prizes.

Cochins in their different classes were worthy of their best days. The cocks were excellent in colour, perfect in shape and comb, and of good weight. One bird was so beautiful in all particulars, that we cannot refrain from an especial notice. We allude to the first-prize cock of 1866, shown by Mr. Causer. Although both classes were good in weight, that which was said of the *Dorkings* may be repeated here. Due allowance being made for the difference in sex and stature, the hens were much heavier than the cocks. Mr. Fell's first-prize hens weighed 19½ lbs. They were followed by 19 lbs. 2 ozs., 18½ lbs., 17½ lbs., and 17 lbs. The pullets were quite as good. Fifty-seven nominations in the prize sheets may speak of the numbers as well as the merits of the Buff and Cinnamon classes. Brown and Partridge-coloured *Cochins* seem exempt from the infirmities of old age. While they give undeniable proofs that they are old, they are those that are not inconsistent with what is poetically called "a green old age," or it may be that as they are longer in coming to maturity, so they are more durable; in fact, they are the oaks of the poultry forest. The first-prize old cock of this breed was really a grand bird. He belongs now to Mr. Fenton. He formerly belonged to Capt. Heaton, who does not appear this year, because his poultry-houses and part of his stock disappeared in the disastrous floods near Manchester some time since. The old birds in these classes were better than the young. We do not know whether we may attribute it to the kind interference of the Rev. F. Taylor, but there was a manifest improvement in the White *Cochins*, in every respect. The vulture hock, that came in after Mrs. Herbert retired, gets less every year; at this Show it was scarcely perceptible. Much credit is due to those who bred the prize birds of this year.

Those who prophesied *Brahmas* would one day hold their own, and were laughed at for a time, may now look up. They took and held their rank among the principal classes. The show of cocks was a display, and many a highly commended bird deserved a prize. Eighteen had either prizes or honourable mention among the cocks only; but they may be shown heavier. The writer of this has had cocks weighing 13½ lbs., without especial care or painstaking. The heaviest in this class weighed only 11½ lbs. They were, however, carefully selected, and the plumage is now well understood. The same may be said of the pullets and hens. They left nothing to desire. Light *Brahmas* are no longer consigned to the eccentricities, but have two numerous and well-filled classes. The first prize and a piece of plate went to Mr. Pares, whose bird deserves especial mention for its perfection. This breed has established itself, and from its beauty, purchased at no sacrifice of useful properties, it will be a favourite wherever the atmosphere is favourable to white plumage.

Next came our old friends, the *Malays*—eight good birds, but subject to the same difficulty that besets Scotch terriers, and even some human beings; their beauty is deemed ugliness by some. People should recollect there are different ideas of beauty.

Crevé Coeurs had two classes to themselves, and justified the gift. Fifteen pens received honourable mention out of thirty-three entries. The prizes, both first and second, went to the same yard as last year, while the first chicken prize was gained by a hen of unusual merit, belonging to Col. Stuart Wortley.

Spaniards were decidedly better than they have been the last two years. Most of the prizes, in remembrance of Mr. Rake, and thanks to his judgment in past years, still hang about Bristol; but Yorkshire and Lancashire seem disposed to creep up. The prize for the best hens or pullets went to the former county, with two very remarkable hens. The question of smooth or rough faces is exciting a good deal of attention, and some controversy. It will remain a difficulty. A young cock will show as great a depth of face as an old one. The former will be smooth, the latter wrinkled; but it is not so in hens. No Spanish hen attains her full face till she has passed her second year. It will then begin to be wrinkled; but if the eye be still well open, if the face have lost none of its depth, and the tops of the inequalities have no red on them, we do not see why the unsmooth face should be a disadvantage. We were much pleased to see the improvement in this breed.

The Black *Hamburghs* were very good, and these again have justified the allotment of separate classes to them. We know few more stylish fowls. Golden-pencilled *Hamburghs* were good, but the cocks were hardly so good as the pullets. We are convinced that however good old birds of these classes may be for breeding, they should not be exhibited. Their plumage appears to wear out, and the pencillings become mossy. This is truer of the Silver than the Golden; but it applies to both. There is a truth and brilliancy of marking in the pencillings of pullets, that we look for in vain in hens. We are not wishing to speak lightly of good classes; but we have not the same equality of merit in both sexes which we had in the days of Mr. W. Worrall and Mr. Archer. Many pullets were perfect; but it would have been difficult to mate them worthily for exhibition. The Golden and Silver-spangled birds were very beautiful, especially the former. Among the cocks of the latter, the lacing and barring of the wings have been neglected in the search after clear tails; but the whole of these classes must be highly spoken of.

Polands are at last increasing in numbers, and are as good as ever in quality. Every class was meritorious, and they brought fifty-one pens into competition. Mr. Adkins's Silver and Mrs. Petiat's Golden deserve especial mention. Mr. Edwards, of Lyndhurst, has the gift of breeding Black with white tops.

Our notice of *Game* classes must be a run of commendation. They were all good. One thing, however, cannot fail to strike any one who observes them closely, that is the increase in size and weight. What would one of the old school think of the average of 5½ lbs. in a class when the same at the end of the last century was 3½ lbs.? Fighting has disappeared, and the cocks are certainly better and stronger than they ever were. It is almost invidious to mention any, where all were so evenly meritorious; yet some should not be passed over. Messrs. Williams, Gilbert, Moss, Wood, Burgess, all deserve mention; also the Duke of Newcastle and Sir St. George Gore. The chief honour of the Game classes must, however, be awarded to Mr. Wood, who showed the best Brown Red pullets we ever saw. They deservedly took the piece of plate for the best pen of Game in the Exhibition. Black and Brown Red hold their own, and produce grand classes. Duckwings keep about the same; but the Blacks, Whites, and Fics do not increase in numbers.

It is the province of the Various class to be the trial ground of all new introductions. They remain there only so long as their entries are comprised in a certain limit. Last year the *Crève Cœurs* outgrew it; we fancy this year the *La Flèche* will do the same, and the *Houdans* also. This class was made up of the following:—*La Flèche*, *Houdan*, *Cuckoo*, *Silkie*, *Sultans*, *Guelanders*, *Breda*, *Black Shanghai*, *Magpie*, *Tarifans*, *Andalusians*, *White China*, *White Poland*, *Buff Polish*, *Many-spurred Indian Game*, *Wild Jungle of India*, and *Pheasant Malays*, making forty-five pens.

Gold and Silver-faced *Bantams* were good, but not numerous. The old complaint is still made, that the Silvers show too much of the Golden colour. White and Black were both good, better than they have been of late; but some, even the prize pens of Black, might be improved by a whiter deaf ear. Game Bantams were very good, especially the first-prize Duckwing cock.

For the first time in our experience the *Rouen Ducks* have outweighed the *Aylesburys*. They have gained while the latter have lost. We cannot better do our duty than by premising, that being perfect in all points they weighed—*Rouens*, 19 lbs., 18½ lbs., 17½ lbs.; *Aylesburys*, 18 lbs., 16½ lbs., 16½ lbs.

There is no standing still or going back about *Geese* and *Turkeys*. Old White, 57½ lbs., 47½ lbs.; young, 42½ lbs., 40½ lbs., 36½ lbs.; Grey, 59½ lbs., 50½ lbs.; young, 42½ lbs., 42½ lbs., 37 lbs. *Turkeys*, old birds, 49½ lbs., 47½ lbs., 46½ lbs.; young, 39½ lbs., 36½ lbs., 35½ lbs. It must be recollected these pens are composed of two birds only.

The beautiful *Buenos Ayresan Ducks* were very good, and the *Mandarins* and *Carolinas* showed how lovely plumage may be even in confinement.

We do not pretend to say of this great Show that its management is perfect; but we do not hesitate to say that nothing is neglected that can render it more useful or more attractive. Conducted by men of the highest standing and position, who do not hesitate to superintend even the smallest and apparently most trivial details, it has had a long career of success. It needs no gift of prophecy to foresee a continuance of it. It is deserved. From the hour the Show opens till the Hall is empty, the officials remain at their post; no question can arise that cannot be immediately answered; no difficulty that cannot be solved. For months before the Show continued meetings are held, and there is constant labour. All this is done so cheerfully and so well, and is so entirely free from any selfish object or result, that we cannot forbear from offering all parties our hearty congratulation on their success.

The Judges were:—The Rev. R. Palleine, Rev. G. T. Hodson, G. J. Andrews, Esq., J. H. Smith, Esq., Mr. Joseph Hindson, Mr. Bailey, and Mr. Teebay.

CHIPPENHAM POULTRY SHOW.

THERE are some country towns in England which look so very old that no house seems to have been built this century; then, they are so very small, that in whatever street you stand you see right through to the country beyond. You may often look straight before you, and behold, there is not a man visible. A small boy whistling gives you absolute comfort, and takes away the oppressing sense of solitude—twice solitude, among old bricks and mortar. Even a toddling child playing in the gutter is better than nothing, and a mother scolding the said child is quite a relief. In regard to such towns there are said to be market days; but it has struck me, not without some proofs at hand, that the good folks really hold their markets in the evening—perhaps when there is no moon, that their smallness may not be visible. There are shops; but how do their owners live?—that is the puzzle. I once went into one on a summer afternoon. There were two steps down in order to enter it, so old-fashioned was it. I knocked, no answer; bell of course there was none. I laboured the counter till my knuckles were sore; when, just as I had grown hopeless, a drowsy-eyed little man raised a heavy head from behind a pile of drapery goods, and said, "I beg your pardon, sir, but I was having my afternoon's nap." "So it seems," said I, "and the whole town is following your example." Ah, that was a quiet town! I used to think that the inha-

bitants sent their orders to the tradesmen through the post (for there actually was a post office), and then that the goods were delivered, I fancied, at the dead of night. The inhabitants seemed to have the spirit and feelings of Tennyson's "Lotos Eaters," and to say—

"All things have rest—why should we toil?
There is no joy but calm."

Now, my good town of Chippenham—I do not live there, mind, but I only have adopted it as my town—is no such sleepy place. It is an old town, an old borough. It has returned two members to Parliament since King John's time. It has old buildings, such as an old Town Hall, old picturesque shambles, a fine old inn—but, Mr. Hotten, the sign is gone! A large-cheeked angel no longer blows a long trumpet. Here and there is a fine old house, and one remarkably fine old house-front, said to have belonged to a mansion near. Now, Chippenham, very old and respectable, like a prudent bachelor who marries late, wedded, some quarter of a century since, a young wealth-bringing bride, one Miss Great Western. She succeeded to the fortune of old Mr. Roads, and greatly added to it. This lady brought new life to Chippenham. She brought, too, a famous brotherhood who worked in iron, and cunning Chippenham men said, "You South Wilts, keep your chalk, but send us your cheese;" and forthwith, by the aid of Miss Great Western, huge loads of cheese came, till, particularly at certain seasons, Chippenham is full of cheese, and full of buyers and sellers, and the old town is well pleased to have it so. Hence it has come to pass that my town is both old and new. It has its old hall and new hall, its old church and new church; and each year it is running farther and farther into the country, for new houses bright and clean, made of Bath stone, abound. So Chippenham is now busy, bustling, and go-ahead, while its old respectable look keeps it from having the least touch of Brummagem about it.

Of course Chippenham has its Poultry Show. I should think so, indeed; and this year's (held November 29th and 30th), was better than last year's, and next year's will be better still. There were in all 121 pens. *Dorkings*, eleven pens. First prize, Mr. Johnson, of Langley, a new exhibitor. I fancy. Second, Mr. Hawks, of Malmesbury. *Spanish*, but four pens, and Mr. Heath carried off both prizes. *Game* formed a large class, but the cocks were much better than the hens—the husbands better than their wives!—this rule does not always hold good with featherless bipeds. First prize, Mr. Sium, of Charlton. Second, Mr. Robert Elling. Out of four pens of White Game, two were ineligible for prizes, the cocks not being dubbed, and the first prize was withheld; the second prize went to Mr. Hawks. For *Cockies*, the first prize was awarded to Miss Milward's Buffs, which indeed seldom meet with a rebuff; the second to Mr. W. W. Hulbert, an enterprising young tradesman in Chippenham, who won with a good pair of Partridge. *Brabams*.—First, Mr. Hinton. Second, Mr. Maggs. *Hamburghs*, and here, indeed, I note a change for the better; three years ago there were scarcely enough birds for the prizes, and now they formed the largest class. The Pencilled seemed to be the favourites, especially the Golden. First prize, Mr. Maggs. Second, Mrs. Yatman, of Tetbury. Gold and Silver-spangled.—First, Mr. W. W. Hulbert. Second, Mr. Maggs. *Polands*.—Mr. Hinton first and second, with Silver-spangled. These birds seem very robust, and of good constitution, as well as of a good strain. Mr. Hinton also showed a pen of Black Polands, but the birds were evidently of a brave English disposition, not intending to show the white feather in front to the enemy. The *Game Bantams* were numerous, and the first prize ones very good; they belonged to Mr. E. Bailey, of Chippenham; the second prize went to Mr. Orledge. *Bantams*, "Any other variety," but three pens. First prize, good Sebrights, belonging to Mr. Maggs; the second, Mr. Cambridge's well-known Blacks. The "Any other distinct breed" were a middling lot. There were also five pens of cross-breeds, which I cannot admire. *Turkeys*.—Miss Milward first. The cock bird belonging to Mr. Adney, though not a prizetaker, I must not omit to notice for its exceeding beauty of plumage. *Geese* were abundant. *Ducks* ditto, but the *Aylesburys* were the best; of the little Ducks there were but four pens. Last of all came "Sweepstakes for the best Game cock." Mr. Thompson, first; Mr. G. S. Sainsbury, second; and Mr. Elling, third. I was very glad to hear the Secretary state on the second day, at, or rather after the dinner of the Society, that every prizetaker was paid or would be by that night's post, so I hope there will be no complaints. —WILTSHIRE RECTOR.

BRIGHTON POULTRY SHOW.

THIS was held on the 5th, 6th, and 7th inst., when the following prizes were awarded:—

DORKINGS (Coloured).—First and Second, Viscountess Holmesdale, Linton Park, Staplehurst, Kent. Third, Messrs. E. & A. Stanford, Ashurst, Steyning. Fourth, D. C. Campbell, M.D., Essex Lunatic Asylum, Brentwood. Highly Commended, C. Cork, New Shoreham; Marchioness Dowager of Bath, Muntham Court, Worthing. *CHICKENS*.—First and Fourth, Viscountess Holmesdale. Second, J. White, Warley, Northallerton. Third, J. D. C. Campbell, M.D. Highly Commended, Miss E. Price, St. Leonard's-on-Sea; J. G. Simpson, Springfield, near Cheshamford. *GAMES*.—First, W. W. Fyde, South Lancing. Second, S. Matthew, Stowmarket, Suffolk. Third, H. Gorrings, Southwick Green. Fourth, J. Jeken, Eltham, Kent, S.E. Highly Commended, F. Pitts, Jun., Newport; H. Gorrings. *CHICKENS*.—First and Fourth, W. W. Fyde. Second and Third, S. Matthew.

SPANISH (Black).—First, E. Wright, Holloway Road, London. Second, A. Heath, Wilks. Third, J. Jenner. Fourth, Rev. J. de L. Simmonds. Chilcomb Rectory, Winchester. *Chickens*.—First, A. Heath. Second, and Fourth, Messrs. R. & E. Ede, Worthing. Third, J. R. Rodbard, Aldwick Court, Writington. Highly Commended, Rev. J. M. Rice; J. Jenner; W. H. Walker, Shenfield, Brentwood.

BRAHMA POOTRAS (Light).—First, F. Crook, Vine Cottage, Forest Hill, Second, T. W. Smith, Bristol. Third, H. Dowsett, Park Farm, Pleshey. Fourth, J. Pares, Postford, Guildford.

BRAHMA POOTRAS (Dark).—First, Marchioness Dowager of Bath, Worthing. Second, C. Cork, New Shoreham. Third, J. H. Pickles, Todmorden. Fourth, Rev. J. Ellis, Bracknell, Berks. Highly Commended, E. Sheerman Obelmsford; Mrs. Christie, Glyndebourne.

COCHIN-CHINA.—First and Third, J. E. Rodbard. Second and Fourth, C. Jennison. Highly Commended, F. W. Rust, Hastings.

POLISH (Any variety).—First and Second, T. P. Edwards, Lyndhurst, Hants. Third, J. Hinton, Hinton. Fourth, W. K. Tickner, Ipswich, Suffolk. Highly Commended, D. Mutton, Brighton.

HAMBURGH (Gold-pencilled or spangled).—First, N. Marlor, Denton. Second, F. Pittis, jun. Third, F. J. Loversidge, Newark. Fourth, W. W. Pyne.

HAMBURGH (Silver-pencilled or spangled).—First, W. W. Pyne. Second, T. J. Saltmarsh, Chelmsford. Third, National Poultry Company, Bromley, Kent. Fourth, G. Hudson.

BANTAMS (Any variety).—First and Second, J. W. Kelleway. Third, Mrs. Sheerman. Fourth, W. W. Pyne. Commended, W. Boucher, Notting Hill, London; W. W. Pyne; F. Parlett, Great Baddow, Chelmsford.

ANY VARIETY NOT PREVIOUSLY MENTIONED.—First, Col. S. Wortley, Grove End Road. Second, T. P. Edwards. Third and Fourth, National Poultry Company. Commended, P. P. Cother, Salisbury; National Poultry Company; J. Pares; H. M. Maynard, Ryde; F. W. Zuerhorst, Donnybrook.

SWEEPSTAKES FOR SINGLE COCKS.—First, S. Matthew. Second, G. Boniface, jun., Ford. Third, H. Gorrings. *Cockerels*.—First, J. Jenner, Lewes. Second, C. Cork, New Shoreham. Third, Messrs. E. & A. Stanford.

GESE.—First and Second, Mrs. Seamons, Hartwell, Aylesbury. Third, G. Hudson.

DUCKS (Aylesbury).—First and Second, Mrs. M. Seamons. Third, H. Dowsett.

DUCKS (Any other variety).—First, Miss E. Price. Second, H. Humphrey, Ashington, Sussex. Third, J. R. Rodbard, Aldwick Court, Writington. Highly Commended, W. Stanford, jun.

TURKEYS.—*Poult.*—First and Second, Lady M. Macdonald, Woolmer, Liphook, Hants. Third, Marchioness of Bath.

Protons.—*Dragons or Carries.*—First, C. Cork, New Shoreham. Second and Third, H. M. Maynard. Commended, C. R. Dames, Chigwell, Essex; R. C. Weekes, Hurst. *Any other variety.*—First, G. Hudson, Market, Brighton. Second, A. Heath. Third, H. Lee, Appuldurcombe, Isle of Wight. Commended, F. Brommel, Ladywell; A. Heath; J. Percival; F. Pittis; C. R. Dames; B. P. Brent; C. Cork.

JUDGES.—Mr. Edward Hewitt, Sparkbrook, Birmingham; and Mr. J. S. Turner, Chippington.

PRODUCE OF EGGS.

In the Number of the Journal published November 27th, page 415, "S. G. J." states the produce of eight Silver-spangled and Golden-pencilled Hamburg hens. I wish he had given the weight of the eggs, as I wish to compare his produce with mine, and am anxious to know the breeds or crosses that lay the greatest weight; number of eggs gives but a faint idea.

As I wish for information, I send the result of five different breeds for April, May, and June, 1866, and hope some of your numerous correspondents will state produce in weight during the same three months:—

Buff Cochins	Laid 48 eggs	.... weight 111	ounces.
Grey Dorking	" 56	"	" 129½ "
Black-breasted Red Game	" 51	"	" 96½ "
Crève Cœur	" 48	"	" 105 "
Cross (Dorking and Cochins)	" 46	"	" 106½ "

I perceive that "S. G. J.'s" hens averaged fifty-nine eggs during the same time, but I imagine he is far short of me in weight.

Please inform me if a Grey Dorking cock's breast changes from speckled black to white feathers. Mine was hatched February, 1864, and is now quite white.—*ALIQURS.*

BUFF COCHIN-CHINAS.

I CHANGED some fifteen months ago to visit one of our well-known Yorkshire poultry shows, and the idea entered my mind of becoming a poultry fancier. On reference to your Journal I found that a well-known and very successful breeder of Buff Cochins at Manchester had for disposal some "good pens of Buff Cochins." I wrote to him, and in reply to my communication he very courteously informed me that he could sell me "a really first-rate pen for £5, quite fit to exhibit and take prizes anywhere." I purchased them, and note my success. They have been exhibited at two small poultry shows near the place where I live, and at neither could my "really first-rate pen" be favoured with either prize or com-

mendation; and yet my birds have, no doubt, cost more than any other pen of the class exhibited. Still all hope of success "with this really first-rate pen" was not yet gone. A short time ago I advertised in your Journal that I had a number of chickens on sale, bred from this very pen. A gentleman in London answered the advertisement. I sent them, and in a note just received he says, "They are not Cochins—at least, not pure bred, and are not at all worth the amount you ask (5s. 6d. each)." So much for "my very fine pen of Buff Cochins." I, for one, have done with fancy poultry-keeping.—*J. D., JUN.*

[We insert this, not because we feel convinced that our correspondent has been wronged, but because it gives us an opportunity of saying that any one who buys anything of the true merits of which he knows nothing, must always be liable to be deceived. Such purchaser commencing poultry-keeping, should ask advice of others better informed, and go with one thus better skilled and pick out the pullets from one yard and the cockerels from another. Although our correspondent writes from Huddersfield, surely he is not a Yorkshireman!—*EDS.*]

WALSALL POULTRY SHOW.

ALLOW me a word or two in reference to one of the Shows—viz., Walsall, mentioned by "CHANTICLEER."

1st, As to feeding. At our last Exhibition all the poultry that soft food would suit had a sufficient supply daily, and others occasionally. The whole of the birds had a plentiful supply of green vegetables during the time they were in our care; the result was they were sent home in good health, to prove which we hold many letters from exhibitors, thanking us for the care taken of their specimens, and expressing their satisfaction at receiving them so soon after the close of the Show.

2nd, As to time. As our town is very central, birds sent on Thursday night, or even on Friday morning (except in extreme cases), ought to reach us in time for admission on Friday evening, and we pledge ourselves to have the whole dispatched from our railway station before 11 A.M. on the Wednesday following; so there is no reason why birds should not go back from our Show in as good condition as from any other, even where the time is shorter, especially as we have a spacious, lofty, and well-ventilated building for the Exhibition to be held in.—*JOHN BAYLISS, Hon. Sec.*

PRIZE LIST OF NANTWICH POULTRY SHOW.

THE prize list of the above Show has always been rather novel, but that for the forthcoming Show is certainly unique. Hitherto Cinnamon, Buff, and Partridge Cochins have competed in one class; but in the prize list just issued there are only two classes, one for Buff and one for White Cochins, to the exclusion of the dark birds. Now this appears to me so pointed that I ask for some explanation, as during the existence of the Show there have not been half a dozen Yellow or Buff Cochins exhibited. The question arises, Is the class created for a patroness of the Show and successful exhibitor now located near Nantwich, and who probably will have no competition when it is confined to the limited radius of thirteen miles? Pray do not think I make this inquiry for the sake of the prizes, but on account of the way in which the class for birds of which I am a breeder, and with which for many years I have been a prizetaker at Nantwich, has been struck out of the prize list.—*EDWARD TUDMAN, Ash Grove, Whitchurch, Salop.*

BRAHMA POOTRAS AS EGG-PRODUCERS.

HAVING observed occasionally in the Journal remarks on the best egg-producing fowls, I send you my personal experience in such matters.

Previous to December, 1864, the fowls which were kept here consisted of Dorkings, Spanish, three varieties of Hamburgs, Cochins, and Crève Cœurs. In the early part of December, 1864, we procured four Brahma Pootras, one cock and three hens. One of the hens commenced laying a few days afterwards, and a few chickens were hatched on the 23rd of January, 1865, some of which commenced laying in the first week in the following July. Only a few late broods were brought out in 1865; but this year several broods were brought out in March and April.

We reduced the number of Dorkings, Hamburgs, and Cochins, parted with the whole of the Crève Cœur, and increased the number of Brahma Pootras, so as to keep in 1866

as nearly as possible the same number of hens as in 1864 and 1865. I herewith send you the exact number of eggs produced daily in November, 1864, 1865, and 1866.

November	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total
1864....	6	6	8	2	3	1	2	3	8	0	2	0	2	2	2	2	1	4	0	3	2	4	4	4	4	3	4	4	3	4	88
1865....	5	4	8	4	8	3	2	4	2	8	3	4	8	2	4	2	3	4	2	1	4	4	4	4	6	7	8	5	7	6	115
1866....	16	12	15	11	10	11	13	10	12	10	7	10	11	10	11	9	10	9	9	8	10	7	9	8	10	12	10	11	13	12	315

Should this meet the eye of your correspondent "NEWMARKET," I trust he will in future have a more favourable opinion of this most handsome and useful bird, and never more apply such epithets as "awkward, clumsy, and ugly," to one of the most prolific and docile fowls of the poultry-yard. An old lady here who has just read "NEWMARKET'S" remarks on

Brahmas, &c., in the Number of the Journal for the 16th October, exclaimed, "Hich, the man must be blin, or takin o'er muckle whuskey and couldna see, or maybe he kent nathin' about em."—J. HARTNELL, *Blythwood, Renfrew.*

[We shall be obliged by a detail of the produce of eggs of Silver-spangled Hamburgs which your offer.—Eds.]

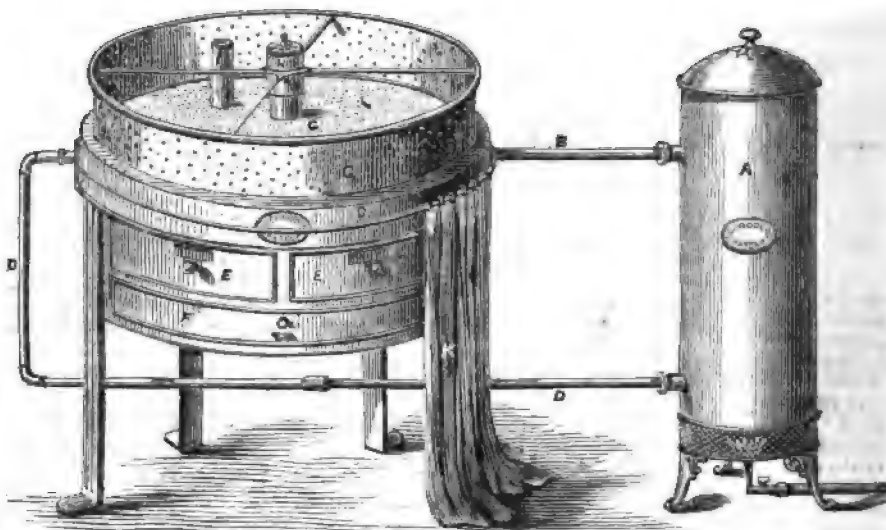
INCUBATORS.

To invalids and those who are confined much to their homes, hatching eggs artificially affords a pastime attended with a certain amount of interest which is, of course, distinct and apart from any public advantage derived from an unusual production of chickens.

I know by experience that there are great difficulties attend-

ing the hatching of eggs by artificial heat; but if those persons who attempted such hatching were to compare notes through your Journal, I think it possible that some way of overcoming them might be invented.

My trials were made in a tin box about 6 inches deep covered with a glass top, through which the thermometer could



SCHRÖDER'S PATENT INCUBATOR.

A. Boiler and heating apparatus for obtaining the necessary circulation.

B. A pipe leading from thence to an iron tank (C), fitted by preference with a plate-glass bottom, under which are the egg-drawers (D), so arranged with ventilators that the temperature may be kept under perfect control. The bottoms of these

drawers are of perforated zinc, to allow the evaporation of water from the cold-water drawers (E) to percolate through the chaff or other material to the eggs during the time of incubation.

D. The return-pipe from the tank to the boiler.

G. A perforated zinc covering or frame,

which may be filled with sand or other material, for preserving the heat, and for the chicks to run in when hatched.

H. A ventilating shaft.

I. A pipe for testing the heat of water in the tank.

J. The improved gas-burner.

K. A curtain to exclude light and draught.

be observed without trouble. It is warmed by flat tin pipes about an inch deep, which take four turns through it, and are connected by two junctions to a small tin boiler on the outside of one end. These pipes, which have about half an inch space between them, are covered with a plate of tin, which is again covered with 1½ inch of sand to rest the eggs upon. The radiation of heat from this box I found to be quite disastrous during cold nights; and, therefore, I surrounded it by an outer coating of wood. The reader may observe, perhaps, that I might as well have had a wooden box at first.

For my heating power I used one of Price's composite candles in a Palmer's candle-lamp, and as this commanded a steady heat of 40° above the atmosphere of the room in which the experiment was tried, I thought I was uncommonly lucky in hitting upon exactly the right means by which to obtain success. I imagined the heat would be steady and regular, the candle always remaining at 3 inches distance from the bottom of my boiler, and giving out the same amount of heat. I found, however, that even after surrounding my box with the coating of wood before mentioned, the variations of the external at-

mosphere affected the internal temperature vexatiously, the sun's heat for about an hour before noon and an hour or two afterwards causing a heat in the box disproportionate to that in the atmosphere of my room, necessitating the withdrawal of the candle to a considerable distance from the boiler.

It is this atmospheric action of cold and heat upon the exterior of the incubator that appears to me to be the grand difficulty which at present lies in the way of artificial hatching, and it must be overcome by some means. Shutting the windows of a room lessens the radiation of heat from it by night, as well as keeps out the sun's warmth by day, and so far contributes to the object in view,—a uniformity of heat in the room, but still this leaves much to be desired.

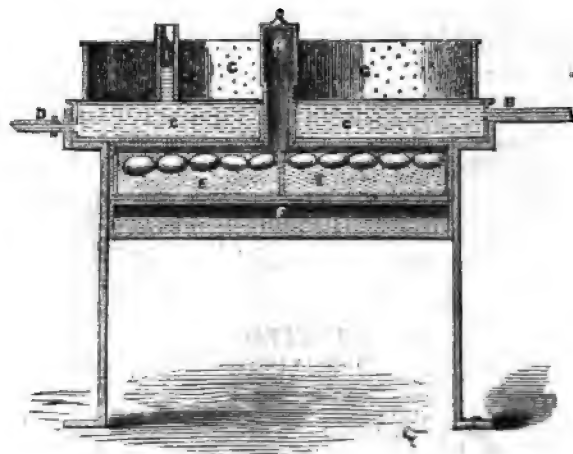
As to my success I have only to say, that in one trial in which I endeavoured to keep the eggs at 104°, which Mr. Brindley says is the proper heat, I hatched five chicks, which all lived, and should have hatched several more, but that the heat twice rose to 110°, which is, as he says, destructive to the embryo life of chicks.

In my other trials I aimed at a maximum temperature of

only 98°, and this brought on a great many chicks until they were about a fortnight old, at which age they all appeared to have perished, when the eggs were opened on the twenty-first day, probably for want of the additional heat necessary for their full development.

I shall try again next spring, and, being wiser by experience, hope for fair success; but I trust that some of your readers, knowing what is wanted, will be able before then to throw fresh light upon the subject.—INVESTIGATOR.

[The desiderata noticed by our correspondent seem to be supplied by Schröder's Patent Incubator, of which the accompanying are drawings and descriptions:—



a. The inlet.
c. Hot-water tank.
d. The outlet.

e. Egg-drawers.
f. Cold-water reservoir or drawer.
g. Perforated zinc.

Mr. Schröder says that "besides being a perfect incubator, it is a warming apparatus of the best and cheapest construction, and, by its being made ornamental, it forms a constant hot-water table, applicable to the heating of halls, nurseries, laundries, and conservatories; and further, if placed in a kitchen, it can be used as a steamer for cooking-purposes."

To breeders of Game, Mr. Schröder thinks it will be found especially advantageous, for every Game breeder knows the difficulty of procuring broody hens at the time they are most valuable. It can be heated either with gas or by the improved oil lamp.]

BEE-KEEPING IN NORTH LINCOLNSHIRE.

SEEING THE JOURNAL OF HORTICULTURE for the first time lately, I have been interested in its gardening part, but more so in that relating to bees, in which I take great interest. Being now, however, a constant reader, I notice occasional accounts of apianian proceedings and honey products, but none from this part of England, the north of Lincolnshire. These statements, with the exception of that of your Renfrewshire correspondent, would not lead me to believe the past to have been a very abundant honey season.

I have been a bee-keeper since the death of my father, nearly twenty years ago, and he for eighteen previously, and although no journal or notes have been kept, I have a fair remembrance of the best honey years during that period. It may, therefore, perhaps be interesting to some of your readers if I mention them as they occurred here. I may also state that my lot is cast near the banks of the Humber, not considered a first-class locality for bees, although in the immediate neighbourhood of large commons and heathy moors of great extent on the one hand, and on the other of well cultivated corn districts, one-fifth being in grass and one-fourth of the remainder being white clover in alternate husbandry. In such a situation in good seasons extraordinary results have been achieved by the busy little workers. For instance, in 1846, with a friend of my father, five stocks increased to twenty, whilst my father had five first swarms that gave 100 lbs. of pure honeycomb in supers or caps, leaving the stocks heavy enough for the winter, all this being done with common straw hives. Bees after that good year did not do much. It is the cus-

tom of the county to take the swarms with brimstone early in August, and leave the old stocks for years; and by these means very little honey was obtained during the following years, there being no extra honey years excepting 1851 and 1854, which were middling, until 1857, which was nearly as good as 1846. This was again followed by bad years until 1860, the worst of all, so that by the spring of 1861 there were very few stocks of bees remaining, and fewer still that were strong. I had, however, three large flat-topped hives which had bees in them since 1848 or 1849. They were 15 inches in diameter inside, and when raised on hoops of straw in the breeding season their strength became enormous, but they ended by becoming queenless in 1863 and 1864, and not being able to obtain other hives of that pattern I began with Stewartons.

I now pass on to the fine season of 1865, when my apiary was once more fully established, and had its complement of more than a dozen stocks, some in common, some in Stewarton, and some in Woodbury hives. In the autumn of that year I introduced into my apiary two stocks of Ligurians, one from a respectable house in the south, and the other from a gentleman near Manchester. The former arrived safely, the latter had a multitude of bees suffocated during the journey. With nursing they both survived the winter, but I shall leave an account of their doings to a future paper.

Passing to the spring of the present year, the severe cold weather at the end of April, and on to the middle of May, threw the stocks back, it was therefore the middle of June before the majority became populous, or swarms began to issue, and surplus honey to be gathered. Having several stocks in common straw hives, I permitted them to swarm, and placed them in Woodbury hives; and here I may state, that whilst the past season has produced nothing extra in common hives, those swarms placed in Woodbury hives filled them with combs in one week, and in three weeks some increased to 56 lbs. nett. Thus much for the Woodbury hive.

With three weeks of fine weather, beginning on the 22nd of June and ending on the 21st of July (with a break of five or six days following the 1st of July), which were very favourable to bees, I have been surprised to find so many stocks queenless this autumn, particularly amongst the cottagers. All these soon became a prey to robbers, so that by the end of September the number of stocks in this locality became very much reduced.

I will now give an account of what has been done by my two best stocks, which are, of course, common bees.

No. 15. A rather weak stock in two Stewarton-boxes, having passed the winter safely, I see by my notes was rather weak in the middle of May, but by the 15th of June it had become populous, and I then placed a regular-sized super on it, which was at once taken possession of, and work commenced forthwith. A third breeding-box being added in the course of a day or two, and extra fine weather commencing on the 22nd, work proceeded both at top and bottom, until by the 2nd of July the first super was filled, sealed, and taken off, nett weight 20 lbs. Another was at once placed on, which in three weeks contained 31 lbs. nett, making a total of 51 lbs. The three breeding-boxes now weigh 57 lbs. nett.

No. 2. Another Stewarton, the best queen I ever possessed. She led off a swarm on the 11th of June, 1865, which in my absence was placed in a common straw hive. On the 1st of July this queen again led off a virgin swarm, which was hived in two Stewarton-boxes and stored sufficient honey to live through the winter. One box was completely and the other about half filled, the stock weighing last autumn 38 lbs. gross, and in the spring, on the 20th of March, 28 lbs., and by the 27th of April 40 lbs.; it then decreased, and by the middle of May weighed only 35 lbs., all gross.

The fecundity of this queen was such that on the 2nd of June the hive was crowded, so I at once placed a third breeding-box under and a super over. Work was begun in both simultaneously, and on the 23rd of June, I farced preparations for swarming had commenced, so I added a fourth breeding-box, yet in spite of this they swarmed on the 28th, in my absence, and after a momentary sojourn on a raspberry tree decamped to the woods, and were, of course, lost. The super was now nearly full but not sealed, so I was obliged to leave matters as they were. A second swarm came off on the 5th of July, weight 5 lbs.; and a third on the 8th, weighing 3 lbs., both of which are now good fair stocks. The old hive of bees now finished its super, 22 lbs. nett, and combed the fourth breeding-box, which I have removed. 22 lbs. of honey, two and a half breeding-boxes combed, and three swarms, leaving the

old hive about 56 lbs. nett, constitute, I think, a fair result for one queen in a season.—J. B., *Bracken Hill, Brigg.*

[We shall be glad to hear again from you.—Eds.]

TAKING HONEY FROM BAR-HIVES.

I WAS very much amused at reading, at page 380, Mr. J. E. Beyton's account of taking honey out of his "bar-frame hive." I can say with truth that he is not the only one who has been in the same difficulty, and some have been so who are not amateurs in bee-keeping. I have several hives made after the style of the Woodbury nine-bar and frame hives, but would not use them at any price again, if I were without them; in fact, I never take honey from them except by bell-glasses. The best hive I now have in use is one made after Huber's book or leaf hive. The frames are held together by two rods from each end of the hive; between each end room is left for nine frames, which are screwed up, and each end has a glass in it, so that I can see if the combs are full. The top at one end is fastened with hinges, at the other end by a rod from top to bottom, and screws up. The top, when loose, lifts up like the lid of a box. When I take out a frame I loosen this from its neighbour with a knife, after having raised the lid a little, but not so that a bee can escape; I draw out the frame, and push up the end of the hive to the remaining bees, and you still have a full hive. All my hives are full of combs at the end of the season; some with six, some with seven, and so on, according to the season or the quantity taken. All who have seen the hives which I use say they are the best for manipulation, with one exception. I shall be glad to show them to any who are within easy distance of—A SOUTH LANCASHIRE BEE-KEEPER.

P.S.—I hope the readers of "our Journal" will not think that I in any way consider Mr. Woodbury's hives are useless—far from it.

[There can be no doubt that the paraphernalia of bars and frames are worse than useless to a bee-keeper who does not possess, and cannot attain, the amount of courage and skill which would enable him to manipulate them. It is, however, quite too late in the day to question the value of an invention of such proved utility. The proprietor of a lot of frame hives who cannot avail himself of the advantages which they possess, appears to us to be in somewhat the same predicament as the cockney who, setting up for a country gentleman, deemed it the correct thing to keep his stables full of hunters, not one of which he ever ventured to mount.]

APIARIAN VARIETIES.

(Continued from page 418).

THE WINTER of 1865-6.—Although the winter of 1864-5 was so destructive, that of 1865-6 has been equally favourable. Scarcely any deaths have taken place within the hives, whilst the bees have consumed but little food. It is natural that during a mild season they need exert themselves but little in order to raise the temperature, but may remain in the quiescent state which they usually assume only during the latter part of autumn. This winter affords us also another remarkable proof of how much the bee-master may contribute to a good and cheap wintering of his stocks by placing them in a suitable locality, and thus withdrawing them from the influence of severe cold. If no destructive second winter follows, and we have but a moderate spring, the bee-master may take fresh courage, and looking forward to the augmentation of his stock, should prepare hives for the reception of numerous swarms.

FEEDING.—I hold continual feeding to be an abuse. Feeding is an evil that should only be resorted to in the most extreme cases, and even then the insertion of a plate filled with food is a far more convenient and natural mode of supplying it than the repeated substitution of the feeding-trough. But it is said the use of the latter at the commencement of spring will promote early breeding and accelerate swarming. To concede the justice of this assertion is only in accordance with the customary mode of bee-keeping in straw hives. Those who use straw hives must seek to multiply them, otherwise they can devote none to the brimstone-pit in autumn, and, consequently, can reap nothing; but it is different with depriving hives, where it is of little consequence whether the bees swarm or

remain united; by removing full honey-boxes the bee-keeper may obtain as large, nay, sometimes a larger, honey harvest than by destroying swarms in autumn, at all events he will obtain finer honey; but if one wishes for an increase of stocks, who would try to force swarms by continued feeding and the expenditure of so much honey during the robbing-time of early spring, when it is doubtful whether it will ever yield a profit, when he can get them so safely and so easily at his own time by artificial means?

THE EGYPTIAN *versus* THE ITALIAN BEE.—I have received so many letters from persons who imagine that I have already obtained the Egyptian bee, that in order to prevent similar inquiries, I wish to state that, interesting as are the observations which Herr Vogel has already made with regard to this bee, I have taken no steps whatever to establish it in my apiary, inasmuch as one cannot keep two races perfectly pure in the same place; but I am so firmly convinced that the Italian bee is the queen of all races, that she is the *ne plus ultra* in beauty, good nature, industry, and ability to defend herself, that for this reason I would exchange her for no other. That she may be maintained thriving and pure in our climate is manifested by thirteen years' experience, during which she has been improved by careful breeding. This was proved at the last exhibition at Brinn, where of the four queens brought from Italy none were equal in beauty to the one found in the hive exhibited by me.—DZIERZON.

OUR LETTER BOX.

BREEDING FROM RELATED FOWLS (*Brahma*).—Breeding from related fowls, or "breeding in-and-in," as it is termed, usually causes the chickens to be smaller and weaker than their parents.

FARNWORTH POULTRY SHOW.—"I beg to state that I have not received my prize money nor silver medal. I have written twice, and have as yet had no reply. I also won a silver cup, but as I went to the Show I brought it away with me.—JOHN CROSLAND, JUN., Wakefield." Mr. James Jackson, of Garden Street, Bury, Lancashire, also states that he has not yet received his cups.

UNITED TOES (—).—Two toes being joined together on the foot of a fowl is a disadvantage, but not a disqualification. It is not important for breeding purposes. In an exhibition it is better that the fourth and fifth toes should be well defined and separate. We have answered for Dorkings. If in any other breed that should have but four toes there is a fifth, it is a disqualification.

CRAMMING (Mr. E.).—Cramming should never last more than a fortnight, after that the food is wasted. The bird makes fat and loses flesh. Shut the birds up now in an out-house or a large pig-sty which is high enough to allow them to roost. Feed them in a pig-trough three times per day, giving each time as much as they eat up clean. Oatmeal mixed with milk; a little pea or beanmeal will do good every other day. The trough must be quite clean before fresh food is put in. If you attend to this cramming is unnecessary.

BRIGHTON POULTRY SHOW (*Fair Play*).—Slight apparent discrepancies will always occur; but the Judges have to make their awards on the total amount of merit possessed by one pen as compared with the total merit of another, and a deficiency in one point may be outweighed by great excellence in other points.

INCUBATOR (H. G. E.).—You must refer to the advertisements or write to the makers for prices, &c. Eggs for sitting should not be older than a fortnight. We do not understand your other question.

BOOK (T. D.).—As you require information relative to manures, cows and cattle, you must procure a book on farming, for there is no publication on those three departments only. Mr. Morton and Mr. Stephens have each published on general farming, but their books are expensive.

MANAGEMENT OF BEES (A. B.).—1. We do not feed bees placed in nucleus-boxes unless their stores run short. 2. In strengthening a nucleus by adding brood comb, all the bees should be swept off, unless the comb be taken from the same stock as that employed in the formation of the little colony, and within a few days of its establishment. 3. We believe a queen cannot pass through an aperture about one-fifth of an inch wide. 4. Success in adding a Ligurian queen to a stock of common bees is always more or less uncertain; but it is said that if a stock of black bees be fumigated, and their own queen removed, all that is necessary to insure success is to bury the Italian queen in the heap of stupefied bees when they are beginning to recover, and leave them to ascend together amongst the combs. 5. Much information may be derived from Mr. Langstroth's work, as well as from M. Hermann's little pamphlet on the Italian Alp bee, but we know of no book specially devoted to the subject of queen-breeding.

POULTRY MARKET.—DECEMBER 10.

We have large supplies and a very dull trade. There is hardly sale at any price for inferior goods.

	s. d.	s. d.		s. d.	s. d.
Large Fowls.....	2 6	3 0	Pheasants	1 9	2 6
Smaller do.	2 0	2 8	Partridges	1 6	1 9
Chickens	1 8	1 6	Grouse	1 9	2 0
Geese	6 0	6 6	Hares	2 0	2 6
Ducks	1 9	2 0	Rabbits	1 4	1 5
Pigeons	0 8	0 9	Wild do.	0 8	0 9

WEEKLY CALENDAR.

Day of Month	Day of Week	DECEMBER 18—24, 1886.	Average Temperature near London.			Rain in last 20 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.			
18	Tu	<i>Erica exurgens</i>	44.7	35.5	38.5	19	4	af 8	49	af 3	50	af 1	13	af 3	11	3 10	352
19	W	EMBER WEEK.	44.9	35.3	38.0	16	5	8	50	8	28	2	30	4	12	2 40	353
20	Th	Sun's declination 23° 27' s.	44.1	35.7	38.9	14	6	8	50	8	15	3	47	5	18	2 11	354
21	F	St. THOMAS.	43.5	35.3	38.5	15	6	8	51	3	12	4	0	7	O	1 41	355
22	S	<i>Diosma ericoides</i> .	44.6	35.5	38.5	15	7	8	51	3	18	5	8	8	15	1 11	356
23	SUN	4 SUNDAY IN ADVENT.	44.1	31.5	37.9	20	7	8	52	3	20	6	56	8	16	0 41	357
24	M	<i>Eutaxia myrtillofolia</i> .	43.8	31.5	37.6	16	7	8	52	3	45	7	40	9	17	0 11	358

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 44.2°; and its night temperature 32.7°. The greatest heat was 57°, on the 17th, 1883 and 1887; and the lowest cold 4°, on the 24th, 1860. The greatest fall of rain was 1.13 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

A FEW NOTES ON THE CULTIVATION OF EXOTIC FERNS.



EXOTIC Ferns are such favourites that I need make no apology for offering a few remarks on their management.

Some people have an idea that Ferns like plenty of water, and therefore always keep them excessively wet; but nothing can be more unfavourable to their successful culture. They require careful attention as regards water, and the soil in which they are potted must be kept in a moderately moist state, but on no account be water-logged. Stagnant water, indeed, is most injurious to them, and as soon as it is seen that the water does not pass freely through the pot, the drainage ought to be examined, and if the roots are found to be in an unhealthy state, part of the earth should be removed, especially that immediately above the crocks. To effect this a pointed stick ought to be thrust through the under part of the ball, and on moving it gently the crocks and mould will fall away, leaving the fibrous roots hanging to the ball, which should also be reduced, removing all unhealthy roots and soil, so that the plant may be returned into a pot of the same size as that from which it was taken, or even a size smaller may be used. Care must be taken to place it in a pot that has been washed clean, and dried by exposure to the air.

After potting it must be carefully attended to until the roots reach the sides of the pot, and a moist warm atmosphere will be more congenial to its well-being than too much water at the roots; but in order to insure fine, handsome specimens they ought never to be neglected, as after a plant has received such a check it would have no chance to compete with one that had always been kept in a healthy free-growing state.

To those who are fond of Ferns, and take a personal interest in growing them, it is a very interesting study to watch the first development of the young plants from the spores into their tiny moss-like appearance on the surface of the mould in which they were placed. If a particular sort is wanted, the pot or pan in which the spores are placed ought not to be left in the same house with the specimen plants, for if it is so placed, instead of having the sort which you had carefully selected, there will most likely be half a dozen species, and these the commonest and most easily cultivated in the collection. The seed-pan ought to be placed in another house where there are no Ferns ripening their spores, and the pan must be effectually shaded from the direct rays of the sun. A square of glass ought also to be placed over it in order to secure a moist atmosphere. The glass should be tilted a little, and wiped

occasionally after the spores begin to vegetate, as they are liable to damp-off if the air is stagnant around them.

I have raised some of the native and hardy sorts—*Ceterach officinarum*, some of the *Aspleniums*, *Athyriums*, &c.—in a shaded part of the greenhouse, but the exotic sorts must be kept in a stove temperature never below 55° at night, and a high moist temperature will cause them to vegetate all the sooner.

As soon as the young plants will bear handling they ought to be potted singly in 60-sized pots. The compost which I use for that purpose, and which suits almost all sorts of Ferns, is two-thirds turfy peat and one-third turfy loam, not too much decayed, mixing with it, for the first potting, a liberal quantity of silver sand and some charcoal broken up. No manure is at any time added to it; I have always found it to be injurious to them.

Ammoniacal vapour from the evaporating-troughs, which Vines, Pines, Begonias, and some other stove plants delight in, is injurious to Ferns; strong, robust fronds of *Blechnum brasiliense* have been thus rendered unsightly, and the more tender fronds of the *Adiantums* have been shrivelled up owing to the same cause.

After the plants have quite filled the small pots in which they were first placed, and have made strong growths, they must be shifted into pots a size larger, taking care that these bear a proper proportion to the size of the plant; a 48-sized pot would be the best; if the plant has grown strongly it might be placed in a 32; but I find it is the best way to give several shifts in the course of the growing season, using the peat and loam in a rougher state as the plants increase in size. I take care to place some of the most turfy part of the peat immediately above the crocks, which ought also to be clean and put in with care, a large concave piece being first placed over the hole, leaving a hollow immediately above it. Before potting, the plants must also be in a moist state, as it is not advisable to water them as soon as the operation of potting is performed, but rather to defer doing so for a day or two, and then give enough to thoroughly moisten the whole mass, not watering again until the plants actually want it. The house ought to be kept in a moist state by damping the paths and sprinkling the hot-water pipes several times in the course of the day. I prefer a moist atmosphere to syringing the plants overhead, which is never done here, as it quite spoils the appearance of the golden and silver-leaved *Gymnogrammas*, which are mixed amongst the others.

I will add a list of sorts which I consider the most worthy of cultivation, and the size of some of them here.

Lomaria gibba, 5 feet across, with fronds 2 feet 9 inches long, and growing in a 17-inch pot, is the finest specimen we have here.

Adiantum (Santa Catharina), 6 feet 2 inches across, with fronds 3 feet 2 inches long, is the most noble-looking of all the Maiden-hairs. It must be kept near the glass, as the stalks of the fronds have a tendency to lengthen too much.

Dryopteris nobilis, 3 feet 4 inches across, length of fronds 1 foot 11 inches; the fronds are very slightly variegated.

Gymnogramma Laucheana, 3 feet 8 inches across, length

of fronds 1 foot 11 inches. This is the deepest yellow of all the *Gymnogrammas*, and is of a more compact habit than the others.

Pteris cretica albo-lineata, 8 feet 7 inches across, length of fronds 2 feet 5 inches. This is a desirable variety, but, like *Pteris tricolor*, it is liable to be attacked by a brown scale, which fastens on the old fronds, and has to be cleared off by washing them with a sponge and water at 85°.

Pteris scaberula, breadth across 4 feet, length of fronds 1 foot 6 inches. This is a very pretty little Fern, but if there are any thrips in the house they will surely find it out, as, indeed, they will almost the whole of the Ferns, except the *Gymnogrammas*, which no insect seems to attack. The readiest way to destroy thrips is by fumigating with tobacco.

Adiantum macrophyllum, 4 feet 4 inches across, length of fronds 2 feet.

Adiantum colpodes, 2 feet 11 inches across, length of fronds 1 foot 3 inches. This is a very useful Fern in the way of *A. cuneatum*, but the fronds are tinged with red like *A. tinetum*. It does well in a greenhouse temperature, and is easily propagated by division.

Adiantum venosum. This is of the most beautiful green of all, but the fronds are very tender. It requires a stove temperature.

Adiantum farleyense. A very fine Fern, which seems to be of free growth.

Adiantum tinetum. A pretty sort, but a bad grower.

Adiantum chilense. Also a bad grower.

Gymnogramma peruviana argyrophylla. A very fine silvery-leaved variety which makes a large specimen.

Gymnogramma tartarea and *chrysophylla*.

Blechnum brasiliense and *corcovadense*.

Adiantum cuneatum.

Platyserium alcedorne and *grande*.

The last two may be grown on blocks; the former will succeed in a greenhouse temperature.

Lygodium scandens. A climbing Fern.

Nothochlana nivea.

Todea pellucida requires a moist atmosphere, and is more suitable for a case than a common stove temperature.

I am well aware that a great many more may be added to the above list of good distinct exotic Ferns, but these are all I have had experience with that are worth general cultivation. To persons who can only grow a limited number such a list will be useful; and if the few remarks which I have made on their treatment be of any service to those who have not had so much experience as myself, I shall be amply rewarded.—J. DOUGLAS, *Lexford Hall*.

VINE-BORDERS.

YOUR correspondent "VITIS" has tempted me to support Mr. John Wills in all that he has said relative to the making of Vine-borders.

I consider, from my experience, that Vine-borders ought to be 3 feet deep below the level of the surrounding ground, and should be raised 2 or even 3 feet next to the house, and fall gently at the sides to 1 or 2 feet. I think that on a span-roofed house running due north and south the sun would have great influence during the summer months, and that in the autumn and winter, by a covering of boards, the heavy rains would run off the border better; for I do not like from a new Vine-border to have all the fertilising substances washed amongst the drainage. The compost I recommend is formed in these proportions:—Twenty cartloads of maiden loam from an old pasture (brown turfy loam I like the best), two cartloads of thoroughly decayed manure, horse and cow, in equal parts, two cartloads of oyster-shells, and two cartloads of rough bones, with half a load of one-inch bones; the whole to be turned over three times a fortnight, so as to be thoroughly incorporated. I consider this sufficient, with the mixing the materials receive during the process of wheeling to where the border is being formed.

The bottom of the border, I think, would be better if concreted in a gentle slope from the house, as recommended by Mr. G. Abbey for his pits for wintering bedding plants. On the top of this concrete—I mean only to concrete the outside border—place 1 foot of rough stones and brickbats, inclining to rather small stones towards the top. On these place 6 inches of rough bones and oyster-shells in equal parts, a good strong sod with the grass downwards, and we will say all is ready for receiving the compost.

With respect to arches, or, as we sometimes find, small openings, to let the rootlets out from the inside to the outside border, I question if it would not be better to build straight upright pillars, say 3 by 2 feet at every 6 or 8 feet, and then to place a good block of timber at the top. If we consider a Vine growing in a pot, would it not be better to knock the bottom out of the pot, and place it in a pan of good rich compost, than to let the Vine push the young rootlets through the small hole at the bottom? I mention this because some gardeners seem to think it matters little whether the arch is big or little, if only there is one.

Supposing that the Vines grown by "VITIS" were to show signs of sickness after being planted two or three years, it would take three more years to lift them and prepare the border, and bring them into a good fruiting condition.—J. GOAN, *Algharth*.

PEAR CULTURE.

(Continued from page 443.)

PLANTING.—The best time to plant Pear trees, whether on the Pear or Quince stock, is when the foliage has partly or wholly fallen, or in November. The distance at which I prefer to plant them is 6 feet apart every way, though it may be reduced to 4 feet. I like the trees to be 6 feet apart, as when planted more closely the foliage shades the ground too much to render their culture successful where the climate is cold, and the soil adverse; the absorption of heat by the earth, and its subsequent radiation, being all-important. I find, also, that close planting has a tendency to encourage growth rather than fertility; for trees, to be fruitful, require all the light we can give them. Another objection which I have to close planting is that the trees soon become too crowded, and however well pinched and frequently lifted, require thinning. I do not wish it to be understood that I mean 4 feet apart is too close to plant bush and pyramid Pear trees on Quince, or even Pear stock, but unless there be spare ground to plant thinnings, I think that distance should be increased, so that the trees may be planted at the distances at which they are to remain. Those who can afford room for thinnings may plant 4 feet apart, at which distance the trees will not be crowded for three or four years, and those not having spare ground may plant them at the distances at which they are to remain. In most gardens there is, in addition to a walk all round, one through the centre, dividing the area into two parts, or cross walks dividing it into quarters. Now, I take advantage of the walks all round to plant, on the opposite side of the walk to that on which the wall is situated, a row of pyramid and bush fruit trees. These are planted 3 feet from the walk on a six-foot border, and at 6 feet apart. The trees cannot under any circumstances shade anything but the six-foot border and the walk; the idea which some entertain that they shade the fruit border on the opposite side of the walk is erroneous, unless they are allowed to attain dimensions more suited to orchard trees, which is by no means uncommon. A bush or a pyramid should be no higher than that all its wants can be supplied without stepping off the ground, and one 6 feet in diameter at its base, and 6 or 7 feet high, will produce as much fruit as a large straggling tree.

Where there are cross walks a 12-foot border may be formed on each side, and two rows of trees planted in quincunx order in each border. The effect of these trees is highly pleasing both when they are in blossom and when loaded with fruit; for Pears on the Quince, and Apples on the Paradise stock, are usually higher coloured and larger if well fed.

At planting, if the soil is not rich, that the trees may start vigorously, a barrowful of rich soil should be given to each. Equal parts of turfy loam and well-rotted manure, well mixed, constitute a good compost for the purpose. Holes 9 feet square should be dug, and of such a depth that the stem will not only be as deep in the soil as it was before, but so that the union of the stock and scion will be covered to the depth of 3 inches. This applies to trees on the Quince stock, and to those on the Pear which have been worked near the surface, and this they should be; but, if they have been worked high, do not plant more deeply than 3 inches above the highest fibres, for no good results from burying the fibres. I find that the Quince roots so near the surface that it is desirable to entirely cover the stock with soil. After placing a little fresh soil at the bottom of the hole, put in the tree, having previously cut in any thick roots to within a foot of their base, leaving the fibres untouched, and in filling in around the tree

spread them out carefully, working in the soil between the several layers of roots. This being done, gently press the soil over the roots, but not if it is wet, and if dry a good watering will be of service; then spread a mulching of littersy manure 18 inches from the stem all round, and let it remain there till spring, when it should be pointed in. Early in March is a good time to do so.

In selecting trees choose those having a clean, clear, straight stem, with side shoots near the base, and equally and rather plentifully distributed throughout the length of the stem. Trees which have spurs near the stem on the side shoots are to be preferred, as it is easier to thin the trees than to furnish them with spurs, when once the shoots are formed long and spurless.

When the buds commence to swell the greatest vigilance will have to be exercised to keep the small birds, where plentiful, from taking out the centre of many of the buds. As a preventive black worsted may be strung from branch to branch, so as to envelope them in a net-like covering, having two-inch meshes. This is the best protection which I know. Should the nights be frosty when the blossoms expand, a piece of thin calico or tiffany thrown over the tree will be sufficient to protect the blossom from injury.

After the fruit is set, if the soil is light, a mulching of rich compost an inch in thickness should be applied for a distance of a yard around each tree. It may consist of equal parts of rotten manure and turfy loam, and be repeated at monthly intervals up to August; or it may be formed of equal parts of any good unctuous loam and fresh horse or sheep droppings, laid up and saturated with strong liquid manure or night soil. Saturated in this manner twice, these ingredients, if laid in a heap for three months, then turned and well mixed, will in three months more form a rich and suitable compost for top-dressings. For heavy soils top-dressings are less necessary than for those which are light. During dry weather after the fruit is set, up to September, a good soaking of liquid manure may be afforded once a week, which is better than many dribbles, and a copious watering and syringing in the evenings of hot days will be of great benefit. In good soils a soaking of liquid manure after the fruit begins to swell, and again during the first dry weather in July, will mostly be sufficient, if the trees have had one or more top-dressings of rich compost, with occasional waterings in dry periods. The nature of the ground and dryness of the season must be considered, and on this account no definite rules for the application of water or liquid manure can be laid down. Manure water may be formed of 1 lb. of guano to twenty gallons of water.

Boils that are rich may not need top-dressing, as in such the roots will penetrate to a sufficient depth, and to summer top-dress the trees in their case will only serve to deprive the roots of air and sun heat. About two quarts of soot strewed around each tree in a circle, from 2 to 3 feet in diameter, early in March, and allowed to remain undisturbed throughout the summer, will prove of greater benefit than top-dressings where the soil is rich and deep.

The trees should not be allowed to carry more than half a dozen fruit in the first year; but in the following season a dozen and a half will not be too many, and they may be permitted to bear an additional dozen annually until they afford for a good crop a peck of fruit, which will be about the sixth year, ordinary-sized trees being planted. The trees will then be 6 or 7 feet in height, and 5 to 6 feet in diameter at the base. I do not wish for larger trees in the open quarters, as then they shade more ground than that on which they stand.

By June shoots will be of sufficient length for stopping, which should be done when they have made three leaves, then take out their points at the third leaf, working downwards from the upper part of the tree until you reach shoots that are not nearly so vigorous nor so long, and these must not be stopped or pinched until they have formed six leaves, then pinch out their points. A well-disposed shoot should be preserved as a leader, and this may make six leaves, and then have its point pinched out. Any shoots that come after that during the season are to have their points taken out above the third leaf of the last growth, and this throughout the season. No knife is needed, the finger and thumb will do all that is required, and, better than all, no winter pruning is necessary except to remove irregular growths and thin out the branches where they seem disposed to grow too closely to form a symmetrical head.

The second year's treatment is simply a repetition of that pursued during the first as to pinching or stopping, top-dressing, and watering. In the autumn of the first year the ground

should be covered for 2 feet round the stem with a mulching of littersy manure, the surface having been previously stirred or loosened with a fork, yet not so deeply as to disturb the roots, which will be near the surface.

In the autumn of the second year the trees will most likely require lifting; but this will be best indicated by their vigour during the summer, for should they grow so strongly as to require much pinching, it will be well to check their tendency to do so by a judicious and careful lifting and root-pruning in autumn. This is best performed when the leaves begin to fall, digging out a trench 15 or 18 inches from the stem, and lifting the tree out of the ground carefully with as much earth adhering to the roots as possible. Any thick straggling roots may be cut in to within 15 inches of the base of the tree, but do not interfere with the fibres. If the soil is light and poor some of the compost recommended for top-dressing may be placed in the hole, and the tree planted with half a barrowful of the same thrown over the roots in the process of replanting; but if the soil is so rich that the trees grow too vigorously it will only be necessary to place some of the surface soil at the bottom of the hole, and fill in with the ordinary soil. Avoid planting too deeply; the tree should not be deeper than it was before, and mulch around the stem with littersy manure for a distance of 2 feet or more, or so as to cover the ground a foot farther than the roots extend. This will protect the roots from cold, and the transplantation being done early, they will make progress during the autumn, and be ready in spring to support the blossom and fruit as well as those of trees that have not been moved.

The removal of the trees in this manner will be necessary every other year, if the soil be rich, and once in three years after the first removal if it be light and poor. However, the best criterion is the growth. When that becomes vigorous, and can hardly be restrained by summer pinching, the trees should be lifted in the following autumn. Biennial or triennial removal is the only eligible method of keeping the roots out of bad soil, and near the surface, where they can be fed by top-dressings and liquid manure; where the roots are long and scantily furnished with fibres, and penetrate deeply into the soil, or to a distance from the stem into a cold, ungenial medium, the growths are correspondingly gross, long, and devoid of spurs; whereas judicious lifting and root-pruning cause a multiplication of fibres near the surface, and the trees bristle with spurs and fruit-buds, the wood is well ripened, and the fruit fine and highly coloured. If large trees are desired, then root-pruning and lifting must not take place so often, but still the trees may have wholesome checks by these means, when they seem disposed to grow too vigorously. Whenever a tree makes much wood, and shows other evidences of becoming unfruitful, the tendency will be best overcome by lifting and root-pruning in November, which may safely be performed until the trees are twenty years old, and how much longer I am not in a position to say. It should be borne in mind, that the less frequently the operation is performed, the greater is the risk of injury to the trees; also that we must not allow trees to become barren, and then expect to remedy the evil all at once. Trees become unfruitful by degrees, and bringing them into a fruitful state again is a task that must also be effected by degrees.

By the sixth year, stopping annually as advised for the first season after planting, the trees will be handsome bushes or pyramids 7 or 8 feet in height, and nearly as much through at their base or lower branches, and these being as large as they need be, the trees in future seasons may have the shoots pinched at the third leaf repeatedly in the course of the year.

The above remarks all apply to trees that are presumed to be of a fruitful size when planted, nice compact bushes or pyramids 4 feet in height set with bloom-buds. The formation of the trees I shall treat of hereafter, and in conclusion, I would recommend those having only a limited space, who wish their trees to come into bearing soon, and be handsome and prolific, to give Pears on Quince stocks a fair trial, and I have no fear of the result. I know nothing better calculated to interest and please than Pear trees as bushes or pyramids on the Quince.—G. ARNER.

(To be continued.)

MELONS.

THE observation of a dressmaker that "there was nothing so new as that which had been forgotten," is applicable to many other things besides fashionable attire. The eagerness with which your readers have accepted your kind offer of seeds

of the Pocket Melon, is only one example of the truth of the dictum. The comparative want of flavour in this variety of Melon has caused it to drop out of general cultivation, and it is not likely to maintain its new popularity unless the experience of the succeeding summer shall show that it will ripen its fruit with less heat than other and better varieties. I trust that those who may make any experimental trial on this point, will communicate the result in the autumn.

There is another antiquated Melon, introduced as far back as A.D. 1597, but which would now be a novelty. I allude to the Basket Melon (*Cucumis flexuosus*), cultivated at Nagasaki, and said by Miller to be delicious. Can any of your readers enlighten us as to the real value of the fruit, or whether it is still cultivated in England?—G. S.

A FEW OF THE ZONALE AND VARIEGATED PELARGONIUMS OF 1866.

It is very pleasing to observe the improvement taking place in these favourite flowers from season to season; and when many are added to the large number we already possess in the catalogues sent out by the many nurserymen of the present day, no doubt readers of THE JOURNAL OF HORTICULTURE would like to know what are really worth growing for general purposes.

In order of merit, I place first, *Le Grand*, a fine-habited variety, a good grower and free bloomer, with immense trusses of carmine scarlet, shaded with rose; could one throw a white eye in the centre it would be more beautiful still.

Sir R. Peel is another gem of the first water, in colour a fine orange scarlet, with large trusses of bloom, habit dwarf, and a free bloomer; a first-class Zonale in every respect.

Gladiateur, for size of flower, is unequalled in its class; in colour it is of a light salmon, fine truss. A magnificent Pelargonium for the conservatory; of strong habit.

H. W. Longfellow.—A pretty dark-shaded salmon, good truss; a useful variety.

May Queen.—Habit and truss good, lighter in colour than *Beauté de Suresnes*, flower-stalks well elevated above the foliage; a desirable variety.

I now come to the variegated class, and how beautiful these varieties are! Here I place first

Queen of Tricolors.—The flowers of this variety are very large, and combined with its beautiful foliage and general good habit, it will take its stand as one of the best of the tricolor class. Its foliage has a fine dark centre of green, and a wide edging of fine yellow, with a rich band of crimson running into the yellow.

Bronze Queen is a variety of the Golden-leaf section, of very dwarf habit, and an excellent bloomer; trusses of good size, in colour orange scarlet. It has also a fine bronze zone on the yellow leaf; it would make an excellent second row in a ribbon border. This variety must be grown to be appreciated.

I think many readers of your Journal will join me in thanking Mr. Pearson for his excellent paper on the culture of this interesting class of plants. I quite coincide with him.—N^Y. DESPERANDUM.

PINCHING FRUIT TREE SHOOTS—PEAS— POTATOES.

I WAS both interested and amused some weeks ago by the first letter of your reverend correspondent, "A CONSTANT READER" (see page 140), and I thought what a fortunate man he was to have been so very successful in such a season as the ungenial and sunless one we are now splashing through. My smile, however, was anything but an ill-natured one, for I am as fond of gardening as anybody, and I think it a pleasant thing to see a quiet-paced hobby, especially if it be a gardening one, ridden, and patted on the shoulder with so much pleasure and contentment.

"A CONSTANT READER" appears indeed to have gained wholesome experience and knowledge upon a point respecting which a little information from him would greatly oblige me. He says, "Do not be in too great a hurry to pinch in your young shoots," and he adds that this is an error he has learned how to rectify. Now this is precisely the mistake I begin to think I have myself fallen into, and if he will kindly inform your readers what the error was, what the result of the wrong-doing, and, finally, what is his practice now, and by

what rules and times he guides it—I, for one, shall feel myself not a little indebted to him.

I gave you on a former occasion the results of my experience regarding the early Peas of 1865. This year I grew for the first time Dickson's First and Best. It may, perhaps, be a little earlier than Sangster's No. 1, but I did not find it in any other respect better, and as it is by no means so good a cropper, I shall go back to my first love. Laxton's New Pea is just as large, as handsome, and as free a bearer as its raiser said it was, but I do not like the flavour, too much Pea, and I shall not grow it again. For the same reason, and because it is not in my soil a productive Pea, I dismiss Veitch's Perfection. Sangster's No. 1, Fairbeard's Surprise (which I prefer to its twin brother Champion), Advancer, and Wonderful, will quite content me and keep my family, not a small one, well supplied. The last-named is, as well as Advancer, a seedling of Dr. Maclean's, and is of good flavour, 2½ feet high, and a profuse bearer.

Of Potatoes, Mona's Pride, and I speak now from the experience of several seasons, is first rate; and Rivers's Royal Ashleaf is equally good and prolific, but not quite so early.—THEA.

POTATOES.

To those who prefer the useful to the ornamental the root about which I write to-day is of far greater interest than that about which I wrote last. It appeals to a more general want. We can do without a *Gladiolus*, but it is very hard to do without a Potato. "Them Haricot Baines" are but a poor substitute even at the table of the well-to-do; while to the poor man, whether he be John Bull, Sandy McAllister, or Paddy O'Rourke, it is an indispensable; and albeit political economists have told us that it was Paddy's ruin and Sandy's bane, yet it will take many a generation of William Cobbetts to persuade either of them that they must do without their Potato. This general want, and the desire consequent thereon of possessing good kinds of Potatoes, have led to a great multiplication of sorts said to be distinct, but many of which are very far from it; in fact, without accusing the sellers of dishonesty, it is easy to account for the many so-called sorts and the comparatively few really good ones. There is first of all the raising of seed. In this way many have been obtained. Like seedlings generally, they have been vigorous, productive, overflowing with juvenescence, and hence have appeared in the eyes of the raiser superior to any known sort. A few of his neighbours are led away by his enthusiasm, readily endorse his opinion, and Brown's Eclipse or Smith's Flourball finds its way into public notice. There is another cause still more productive of increase of sorts—viz, that of selected strains. It frequently happens that some one or two roots are superior in their produce, size, and goodness to others of the same variety. These are carefully nurtured, the stock is increased, and acquires considerable local fame; perhaps this has been mainly dependant on the character of the soil and situation, and when the stock is sold and distributed it resumes in other places its normal character and the variety is lost. Again, the same variety exists in different parts of the country under different names. It has been sent to some friend at a distance, the name is lost, and it acquires another for the purpose of distinguishing it: thus, I have known the Red Kidney under three or four different names.

It is somewhat surprising to me, seeing how universally the Potato is regarded with favour, that there is so little discrimination as to flavour. The handsomest-looking Peach in the world, if it were woolly, would be considered worthless, while, again, a good-flavoured one might be retained, even though it were ugly instead of beautiful, but a combination of both is what is looked on as the desideratum; yet I know many persons who, provided a Potato is mealy (some, Goths indeed, like them waxy), care very little whether it is strongly or delicately flavoured; and others think nothing of a Potato looking like a boy who has indulged too much in plum pudding—"all eye." I must own to liking to see a combination of all the requisites, and to having a handsome, well-flavoured, and mealy Potato, steamed in its jacket, and gently laid in a white napkin when it comes to table. Having in the past season had sent to me from various quarters several varieties, or so-called varieties, I gave them all a trial. My object is to obtain, not a market gardener's Potato, but one that suits my own table and wants, and I have before this expressed my decided preference for the Kidney Potatoes. I may, perhaps, modify my

former expression as to not using a round one; but I can only say that I think we ought to have good, thoroughly good, varieties of the Kidneys to carry us all through the season. The soil on which I have grown them is good friable loam, the situation dry and open; we have a good deal of sun and much wind. On this ground, then, I have planted the following varieties:—

- | | |
|---------------------------|----------------------------|
| 1. Mona's Pride | 8. Unnamed Seedling |
| 2. Milky White | 9. Daintree's Lapstone |
| 3. Gloucestershire Kidney | 10. Lapstone |
| 4. Telegraph (Webb's) | 11. Rivers's Royal Ashleaf |
| 5. President (Webb's) | 12. Covent Garden Blue |
| 6. Salmon Kidney | 13. Early Don |
| 7. Red Ashleaf | 14. Covent Garden Prolific |

* Round Potatoes.

1. *Mona's Pride*.—A greatly, and I think unjustly, praised Potato. It is early, but in no way equal to many we have, and, although an abundant bearer, coarse in flavour and very yellow. I have discarded this.

2. *Milky White*.—This I received from the well-known firm of Messrs. Wheeler & Son, Gloucester. It is one of the handsomest Potatoes grown, and well deserves its name, for it is most beautifully white, very floury, and as a second early Potato one that I do not hesitate to regard as first-rate. It is also a very free bearer.

3. *Gloucestershire Kidney*.—This I also obtained from Messrs. Wheeler; and although much esteemed in their neighbourhood, it does not answer my expectations. It certainly was here not equal to many others which I have grown.

4. *Telegraph*.—This seems to be very like a Potato sent out by Mr. Turner, of Slough, some years ago, called *Glory of England*, which was never good for anything in my soil, although it grew very large, but it was always close and unpleasant. I have found *Telegraph* to be much the same.

5. *President*.—Bearing a strong family likeness to the preceding, and, like it, I have condemned it.

6. *Salmon Kidney*.—An excellent late Potato, a productive kind, and keeping well on until the end of May. It can hardly be called kidney-shaped, as it is long and roundish, with a good many eyes, but it is indispensable.

7. *Red Ashleaf*.—An excellent Potato, coming in as a second early, very prolific, of true Ashleaf flavour and appearance, save in the colour. This I had from my good friend Mr. Radclyffe, and regard it as one of the very best that I have.

8. *Unnamed Seedling*.—This appears to be of the Lapstone breed. I had it also from Mr. Radclyffe, and although not equal to the Lapstone, I shall give it another trial.

9. *Daintree's Lapstone*.—This I had from Mr. Daintree. It is a thorough Lapstone, but stronger in the haulm and harder than its parent; it is also more productive and somewhat later, so that I expect it will do to follow it, as it seems a good keeper.

10. *Lapstone*.—I still maintain my predilection for this, I believe the best Potato for a main crop that we have in this part of England. It is not very hardy, the tops becoming soon affected by disease, and the produce is not equal to the requirements of a market gardener; but for symmetry, excellence of flavour, and general good quality, I look upon it as unsurpassed. It will keep good until the end of March.

11. *Rivers's Royal Ashleaf*.—I was not able to report favourably of this last year, and I have not altered my opinion of it from this year's experience. It is a second early Potato, fairly productive, and of average quality, but it is yellowish when boiled, and not, I think, equal to others which come in at the same time.

12. *Covent Garden Blue*.—A round Potato, of the Fortyfold family I imagine, very prolific and floury. The flavour is also very good, and it seems tolerably hardy. Would be greatly liked, I think. I had it from Messrs. Barr & Sugden.

13. *Early Don*.—An excellent round Potato, introduced, I believe, from Scotland by Messrs. Downie, Laird, & Laing. It is an abundant bearer, very good in flavour, and the best of the second early round Potatoes.

14. *Covent Garden Prolific*.—This I had also from Messrs. Barr & Sugden, but I could see nothing in it that merited any particular notice. It was prolific, but not more so than many others.

Besides the above, I saw growing in the field next to mine Prince of Wales, or Boon to the World! and I must say, greater rubbish I never saw. It was large and prolific, but, like the horse that took half a day to catch, and wasn't worth catching

when you had him, so this Potato is worthless, at least here. It turns quite black immediately it is peeled, and was close and ill-flavoured. My friend and neighbour Mr. Banks also sent me some Silver-skins to try. They were very handsome, but I did not think them equal in quality to some others I have named.

My own conclusions are—To grow for first early the old Ashleaf; for second early, Milky White and Red Ashleaf; for the main crop, Lapstone; to be followed by Daintree's Seedling Lapstone, and to finish off with the Salmon Kidney. When lately paying a short visit to our worthy collaborateur Mr. Radclyffe, he gave me two other kinds—Yorkshire Hero, and a very late and ugly-looking kind called Grammars, which he promised to be the latest and best-keeping of all he knew. I mean to try them this year.

I hope that your readers will bear in mind that in this communication my conclusions are drawn only from my own experience, which may not tally with that of others in different localities. I know what suits my soil and situation, and what is agreeable to my own palate, and have written accordingly. —D., Deal.

HOT AIR FROM A KITCHEN RANGE.

I HAVE a small glass shed at the back of the wall in which my kitchen range is set, and thinking to have the benefit, when occasion may require it, of a quantity of hot air which is constantly in the oven, I had an iron pipe of about two-inch bore introduced into the oven from the glass shed, thinking that when the connection was made, the hot air would flow in freely; but instead of the hot air flowing through the pipe from the oven into the shed, cold air rushes from the shed into the oven. Can you suggest a cure?—RUSKINS.

[You do not state in what position you made the hole in your oven; but to help you we will state the following facts:—Such an oven as you describe would not act as desired until a hole was made close to the bottom of the oven from the outside, and another hole close to the top of the oven, and then the cold air went in at the bottom, and the heated air came out at the top. Two iron plugs were in readiness to put into these holes when heat for culinary purposes was wanted in the oven. In another case over a large iron oven in a kitchen range; not to interfere with the oven at all, two iron plates, one in front and one next the fireplace, shut in a hot-air chamber of a good size above the oven, and openings were made from the outside house at the bottom and the top of the chamber. These were 2½ inches wide, and 6 inches long, about the size of an ordinary brick. Much heat was thus obtained, and the Polmaise system of heating in miniature realised. The dry air was damped by a woollen cloth in front of the openings, on which a syphon of woollen list suspended from a small cistern kept constantly dropping. In muggy, damp weather, the air was damp enough without any cloth or syphon.]

DWARF POINSETTIAS.

THERE is, perhaps, no inhabitant of a stove in winter of such striking beauty as *Poinsettia pulcherrima*, with its terminal disk of spreading bracts of the most glowing scarlet; but it has one great drawback—the shoots always grow to an unsightly length before the bracts are formed. I have at length overcome this difficulty in the following manner:—Having kept the store plants in a greenhouse during the summer, that the growing wood might be hardened, I cut off, at the beginning of August, about 6 inches of the tip of each shoot, thrust the cut end into dry silver sand to stop the bleeding, and immediately struck them in silver sand, taking special care to prevent the leaves from flagging. To some I used bottom heat, to others not: almost every one, however, struck readily; and by the first week in November, when they had attained from 8 to 15 inches in height, they began to display the scarlet bracts. These have since expanded, without any increase of height; so that we have at this moment (December 12th), half a dozen handsome Poinsettias, averaging a foot in height, perfect in foliage and in colour, the scarlet disks certainly of fair dimensions—one measuring in greatest diameter 10½, another 11 inches.

Of course the best tops must be selected for striking, and the process might, perhaps, with advantage be delayed to the middle of August.—JAMES CHUDLEY, Gardener to P. H. Gosse, Esq., Sandhurst, Torquay.

HOGG'S COLDSTREAM POTATO.

In an interesting notice of "Home Growths" (page 886), in *The Journal of Horticulture*, the above-named Potato is classed with frame sorts, and recommended as "suitable as an early kind for a small garden." In reading this it occurs to me that many who value a good table Potato, and have not yet grown Hogg's, may on the remarks of so good an authority as referred to pass over this variety, supposing it only fit for small gardens or frame culture. I crave space to state that this excellent Potato is equally valuable for large as it is for small gardens, its shape and size are all that can be desired for a good table Potato, and it boils well. "Round" does not correctly express the shape of Hogg's Potato; it is a flattened round, with the least possible eye.

If this Potato prove generally as sound and valuable as it has done here, it should be a first Potato in every garden, small or large. Out of about twenty sorts grown here, Hogg's was the least diseased in the first week of October, when all trial sorts were dug up; when washed and picked at that time, I found about one in eighteen less or more diseased, none actually rotten. This is far below the number of diseased tubers of any other variety grown here and lifted at that date.—CHARLES McDONALD, Woodstock Park, Inistioge.

QUEEN ANNE'S POCKET MELON CULTURE.

In answer to several inquiries, the seed may be sown in the first week in March, in a pot three parts filled with turfy loam. The seed should be laid on the surface at 1½ or 2 inches apart, and covered with fine soil half an inch deep. If the soil is moist, do not water at the time of sowing, but place in a Cucumber or other frame having a bottom heat of 70°, and an atmospheric temperature of from 65° to 75°. If the soil is not moist a little water may be given. The pot should be plunged in the hotbed. When the seedlings come up keep the soil moist, and the plants near the glass, so that they may not become drawn, and when the rough leaves appear pot off singly into three-inch pots, putting the plants in quite up to the seed-leaves. Before potting, the soil should be placed in the frame a day or two to become aired and warmed. The plants are to have shade from bright sun until established, then admit air on all favourable occasions.

When the plants have two rough leaves take out the growing point, and prepare a hotbed for planting out. It should be 1 foot wider than the frame, and 3 feet high in front, and 4 feet at the back. It may be composed of leaves and litter, or other fermenting material. Set the frame so as to face the south, put on the lights, and insert a stick just under the frame, and reaching to the centre of the bed. In about a week the heat will have risen in the bed; if not more than the hand can bear, on feeling the stick put in the bed, level the surface, and place under the centre of each light a barrowful of rather strong loam in the form of a cone, making its top flat, so that the plant when put in will only be just clear of the lights. If the heat of the bed, as shown by the test stick, be more than the hand can bear comfortably, defer placing soil in the frame until it declines. When the soil is placed under the lights the bed should be covered all over to a depth of 2 or 3 inches with the same kind of soil. When the soil is warmed through place in the centre of each light, and, consequently, on each hillock a plant, turning it out of the pot, and insert it so that the stem will be covered with soil up to the seed leaves. Give a gentle watering, using water of the same temperature as the atmosphere of the frame.

In training rub off all the shoots but two, and train one to the front, and another to the back of the frame, and when these have made five leaves take out their points. The stopping will cause the production of three or more side shoots on each; reduce them to three upon each main shoot, train them equally over the surface, and do not stop them until they are within 6 inches from the sides of the frame, then take out their points. The result will be side shoots showing fruit at the second or third joint. Stop these at the first joint above the fruit, and when the flowers open impregnate them, choosing a fine morning for the operation. If the fruit set, place a tile or slate under each fruit, and keep the laterals closely pinched back to one joint, avoiding too much crowding of the leaves. If the fruit do not set, make choice of three shoots coming from the nearest point to the collar of the plant, cut all back to these, train them in place of those cut away, and treat them in the same manner; the result will be that the fruit

will set well. Afterwards keep the shoots well stopped, and if they become so rank as to shade and otherwise interfere with the principal leaves, thin out the small shoots, so as to admit air and light.

When the roots are coming through the sides of the hills put soil around these so as to cover the bed 9 inches deep all over, but the parts where the plants are planted should be somewhat raised. Tread the soil firmly as it is put on the bed. The plants are to have water whenever necessary, which will be twice or thrice a-week according to the weather. During the setting of the fruit a rather dry atmosphere is essential to the free distribution of the pollen; therefore a few days before the blossoms open, a liberal watering should be afforded in order to avoid giving any more water till the fruit has set. When this is completed keep the soil moist, and if watering be performed early in the evening, and the frame be closed, an atmosphere favourable to the swelling of the fruit and unfavourable to the red spider will be secured.

Watering must be reduced as the fruit swells, and when ripening begins may be entirely discontinued. Air should be given whenever the temperature reaches 70°, and there is a prospect of its rising still higher. A night temperature of from 60° to 65° is suitable. With air, the temperature by day may be allowed to rise to 85° or 90° by sun heat. In watering, avoid wetting the stems of the plants; leave a dry space 6 inches wide all round the stem. If only one plant be placed under a light the crop will be larger than where there are more.

The number of fruit to be left on a plant will depend upon its health, a dozen may be allowed to remain if it be healthy; as many as sixty may be left, but they will be small for the sort, whilst a dozen will be full-sized.

Queen Anne's Pocket Melon does excellently in a frame on a bed of leaves, generating a gentle heat, and thus giving the plants a start, sun heat, which must be husbanded, doing the rest. For the culture of this Melon in pots, Mr. Perkins's article at page 827, of No. 292, should be consulted.—G. ARNEY.

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

CYPPELLA CERULEA (Blue-flowered Cypella).—*Nat. ord.*, Iridaceae. *Linn.*, Triandria Trigynia. Native of the Brazils.—(*Bot. Mag.*, t. 5612.)

HELICONIA HUMILIS (Dwarf Heliconia).—*Nat. ord.*, Musaceae. *Linn.*, Pentandria Monogynia. Native of Guiana. Spathe scarlet, edged and tipped with pale green.—(*Ibid.*, t. 5613.)

CYPRIPEDIUM SCHLIMII (Schlim's Lady's-slipper).—*Nat. ord.*, Orchidaceae. *Linn.*, Gynandria Monandria. Native of New Grenada. Flowers white, lip blotched, and petals streaked with crimson.—(*Ibid.*, t. 5614.)

HELIOTROPIMUM CONVULVULACEUM (Convolvulus-flowered Heliotrope).—*Nat. ord.*, Boraginaceae. *Linn.*, Pentandria Monogynia. This annual is a native of Southern United States, New Mexico, &c. Flowers white. Introduced by Mr. Thompson, Ipswich.—(*Ibid.*, t. 5615.)

LYCASTE GIGANTEA (Gigantic Lycaste).—*Nat. ord.*, Orchidaceae. *Linn.*, Gynandria Monandria. Native of Central America, Santa Martha, forests of Merida, at an elevation of 5-600 feet. Petals and sepals dull olive-green, shaded with brown; lip maroon edged with orange.—(*Ibid.*, t. 5616.)

COMBRETUM MICROFETALUM (Small-petaled Combretum).—*Nat. ord.*, Combretaceae. *Linn.*, Octandria Monogynia.—A magnificent climber, native of Brazil. Flowers crowded and showy from their mass of yellow stamens with orange anthers.—(*Ibid.*, t. 5617.)

SIPHOCAMPYLUS FULGENS.—Scarlet flowers.—(*Floral Mag.*, pl. 313.)

DELPHINIUM.—*Triomphe de Pontoise*. This double Larkspur is pale blue with a white centre. Introduced by Messrs. Fraser, Lea Bridge.—(*Ibid.*, pl. 314.)

NOSEGAY PELARGONIUM.—*Duchess of Sutherland*. Raised by Mr. Fleming, at Cliveden, to be sent out by Mr. Turner, Slough. Colour crimson cerise.—(*Ibid.*, pl. 315.)

LOBELIA.—*Progress*. In Mr. W. Ball's collection, King's Road, Chelsea. Flowers purplish crimson.—(*Ibid.*, pl. 316.)

LUDWIG'S BIGARREAU CHERRY was introduced by Mr. Rivers, of Sawbridgeworth, and was fruited in one of his orchard-houses in 1865. "This variety is remarkable on account of its shape, which is long heart-shaped, being much more so than any other Cherry with which we are acquainted. It is a fine early Bigarreau, ripening just after the Early Red Bigarreau;

in the end of June and beginning of July. The flesh is pale yellow, very melting and juicy, and much more tender than *Bigarreaus* usually are."—(*Florist and Pomologist*, v., 257.)

ROYAL HORTICULTURAL SOCIETY.

WEEKLY SHOW, December 15th.—The Show to-day was a very small one, chiefly made up of a collection of plants from the Society's garden at Chiswick. A small plant and stand of cut blooms of seedling Pompon Chrysanthemum Alfred Chapman was sent by Mr. R. Chapman, florist, Great Warley, Essex, but as the plant was only a seedling flowering for the first time it will be necessary to see it again another season before its merits can be finally decided upon, and its character for late flowering can be considered established. In the collection of plants from Chiswick were *Poinsettia pulcherrima*, *Aucuba japonica* variegata in berry, *Solanum pseudo-capsicum*, and *Cineraria platanifolia*. Amongst flowering plants to be seen in the conservatory is a fine specimen of *Luculia gratissima*, whose fragrance is delicious and seems the whole house.

LARGE OLD APPLE TREES.

ARCHÆOLOGICAL societies, as well as many private individuals, are prosecuting their researches in every direction where any remains of the past are likely to be found, and calculations and conjectures are formed as to the ages of the objects with which archæologists come in contact; occasionally the extraordinary dimensions of particular specimens of the vegetable world are reported and discussed, especially when associated with some important event or revelation of a bygone age. These vegetable records are fitting subjects for comment in the pages of THE JOURNAL OF HORTICULTURE, whether they be Oaks, Yews, Hawthorns, fruit trees, or any other member of the vegetable world; and notwithstanding the great increase of inquiries after objects of this kind, it is probable that there are yet many very remarkable trees scattered over the country which have never yet had their features recorded in print.

Not many days ago happening to be in the park of Sir E. Filmer, Bart., East Sutton, the size of a healthy, noble Oak attracted my attention. Its bole was short, its root-claws were on the surface, and it had a wide-spreading top formed by huge limbs at 8 or 9 feet from the ground. A string was drawn round what might be called the waist of the tree, or where it was smallest, yet there it was upwards of 24 feet in circumference.

A similar-shaped tree I noticed a year or two ago in Buckinghamshire, in a hedgerow. This tree was 28 feet 8 inches in circumference at the smallest part, where its circumference could be taken. It was an Oak, and by its appearance was likely to outlive several generations of the human race.

These examples are not the largest that could be given of such trees, and I have on more than one occasion mentioned a churchyard Yew tree not far from where I write, measuring upwards of 32 feet in circumference at the smallest part of its bole, the height of which is 8 or 9 feet. My purpose, however, is not to describe trees of this kind, but to call attention to some very old Apple trees at Linton Park, and to request other correspondents to report remarkable specimens that may come under their notice; for although it is not likely any specimens of our common fruit trees can be found to compare in antiquarian point of view with our Oaks and Yews, still there are many such trees which possess an historical interest, and which deserve to be more fully known.

Taking the cultivated Apple as a subject for inquiry, it is no easy matter to follow its history backwards through many ages; but there is a belief that the wild Crab had undergone some transformation about the time of the Conquest. There is also a strong belief that at that time the British isles approached in temperature more nearly than now to the present climate of Spain, and the south of France, and that the Grape Vine ripened its fruit out of doors more freely then than it does now. This, however, is not satisfactorily ascertained, still the fact of there having been Grapes grown in the west of England as well as in the southern counties, gives reason to believe that the climate was warmer in those days than at the present time. Be this as it may, certainly we hear little of the Apple, and the period which succeeded the Conquest was not likely to favour the cultivation of articles of luxury, such as it would then be; and probably it was not until after the introduction of the comforts and luxuries of nations farther advanced in civilisation than our forefathers that a taste for fruits became general, and fortunately for us one of the nearest continental nations led the way alike in household comforts and in cultural skill. To the Flemings we are indebted for many of our most esteemed vegetables, and

either history or tradition is at fault, if one of our sovereigns most renowned for encouraging industrial pursuits amongst his subjects, had not to send to Flanders for a salad for the royal table. It is not at all unlikely that the messengers sent for such productions should acquire the mode of growing them at home, and Flemish Cress and Flanders Spinach, names not lost sight of yet, might be associated with many other vegetables now forgotten.

We are told that the enterprising cultivators of the Low Countries were also amongst the first who improved the Apple, and from them there is reliable information that a gardener to Henry VIII., bought a number of trees, which he planted at a place in the northern part of Kent. Probably others of the same kind were planted in proximity to some of the royal palaces. Whether this was so or not, tradition, and, I believe, history, affirm that an orchard of Flemish Apple trees was planted at Teynham, in Kent. We are also told that a number of Cherry trees reached us about the same time, and that they were planted at Sittingbourne, which is only a very short distance from the former place, and thus we have evidence that two such useful fruits as Apples and Cherries were introduced from Flanders into Kent.

Such events were not likely to pass without some remembrance of them being kept up, and if any remains of these identical trees are still in existence, it is hoped that some correspondent will report their condition in the pages of this Journal.

Should the original trees of the Flemish Pippin and Cherries mentioned above have all passed away, their oldest representatives must be interesting, and as the remains of a very old orchard of Apple trees exist here, a description of them, with the assistance of such notes of their history as can be gleaned, may, perhaps, induce others having trees of similar antiquity to contribute to these pages their descriptions.

Within the boundary of Linton Park is an enclosure of about five acres, which, though now devoted to other purposes, still retains the name of "The Old Orchard," for some venerable old Apple trees exist there, and in favourable seasons they bear a fair proportion of fruit. These trees are of great age, and the few that now remain must have been of a large size before decay set in. The accompanying engraving, taken from a fair specimen, will give some idea of the appearance they now present. They would seem to have had clear stems of from 6 to 10 feet high, and the tops assume the ordinary character of aged trees. They have not in any way been meddled with for many years, the elements being their only pruners, and now and then these have been so rude and violent as to break off large limbs, and sometimes the whole tree has given way.

The situation of "The Old Orchard" is on the southern slope of a hill, with an elevation of about 800 feet above the sea level. At present the trees are sheltered from most winds except that from the north, but in their best days they do not seem to have been so protected. The ground has long been in grass, and about twenty-five years ago a belt and some ornamental clumps of trees and shrubs were formed out of part of the orchard, allowing such trees as then stood within these enclosures to remain, and Oriental Planes, Sycamores, Tulip Trees, and other fast-growing subjects have overtopped the Apple trees; but even then I hardly think the death of the latter has been much hastened by the intruders, as some so circumstanced look as well as these standing out in the open ground. It is, however, likely that all those now remaining will have passed away in ten or a dozen years; but the unusual dimensions of those now living, coupled with the fact that the fruit they bear is far from despicable—indeed better than that of many trees not twenty years old, will render some notice of their peculiarities interesting.

Unfortunately I cannot learn that any record exists of the time this orchard was planted; but old people, who knew the orchard well upwards of sixty years ago, speak of it as being a very old orchard at that time, many trees having even then died from old age, but the remaining ones were bearing well.

The fruit sixty years ago had the reputation of being good. The kinds mentioned as being popular at that time have, however, all succumbed to the hand of time. Nonpareils, which were reported to have been sold at a guinea a bushel about the end of the last or beginning of the present century, on some particular occasion, have all disappeared, so has the Russet, another favourite of bygone days; but about ten years ago an old specimen produced some very good fruit of a kind resembling the Golden Reinette. A high November wind, however, laid the tree on its side half a dozen years ago, so that the varieties now left are more limited than the number of trees. In fact,

most of those remaining are of two kinds, one appearing to be a Pearmain of some sort, the other a large kitchen Apple that would pass muster very well at the present day in Covent Garden. This Apple, to which I more particularly call attention, is called to the present day the Flanders Pippin; and as tradition is tolerably trustworthy in matters of local import, the name may be regarded as established. The question then arises, Were these venerable trees imported from the country whose name they bear? History, as I have already noticed, says that a gardener to Henry VIII. imported trees from

Flanders and planted them at Teynham in this county, and very likely one or more of the varieties might bear the name of the country they came from, hence it is not unlikely the trees at Linton might be planted at a period very nearly as remote as that alluded to.

These Apple trees are the oldest-looking and the largest I know anywhere. One of them I find measures in direct perpendicular height 46 feet, and the girth of its bole is 75 inches. The others are much about the same in height; and in circumference of bole they average 67 inches, the largest being



APPLE TREE IN "THE OLD ORCHARD" AT LINTON PARK.

81 and the smallest 47 inches, passing the string round the tree at its smallest part below the first branches; and as the ends of all the top branches are dead, and have been decaying for some years, it is not too much to say that the trees may have been 6 feet higher. Generally the foliage is healthy. No suckers have ever, to my knowledge, been seen, and the question sometimes arises, Have they ever been grafted? If they have not, is it the cause of their greater longevity? The soil which these trees occupy is a sound, deep, mellow loam, neither too stiff nor too light; yet at no great distance are other orchards of recent date, soil and situation much the same, where the trees show indications of dying off, though probably only one-fourth the age of these patriarchs. How is this to be accounted for? King of the Pippins and Winter Quoinings show symp-

oms of old age at thirty or forty years or less, and the Hawthornden scarcely lives more than half that time. The Flanders Pippin trees in "The Old Orchard" were long past their best sixty years ago; yet the fruit they now bear is better than three-fourths of the Hawthorndens met with, and less spotted and unsightly. The fruit is not unlike that variety, being of a pale green, with very little colour, and not so shining in the skin as Dumelow's Seedling and some other kinds. It usually keeps well till Christmas.—J. ROBSON.

[We have paid some attention to the early history of the Apple in England, and some day may arrange and publish our notes. It is very evident that in the days Mr. Robson has named there was a distinction between Apples and Pippins. In the "Privy Purse Expenses" of Princess (afterwards Queen),

Mary, daughter of Henry VIII., there are about thirty entries like this:—"Given to a poor man bringing Apples to my Lady's grace, 2s." but there are only six entries of Pippins, and almost in each instance they were from persons of note, and their names are mentioned; thus, in June, 1548:—"Paid to my Lord Saint John's messenger for bringing Pippins and Strawberries, 5s." That Pippins were a recent introduction, agreeing with the tradition that they were brought to England in Henry VIII.'s reign, has the negative evidence that in the "Privy Purse Expenses" of Elizabeth of York, Queen of Henry VII., there are frequent entries of monies paid for Apples, such as this, in October, 1502:—"To a poor woman that brought a present of Apples from Hounslow to the Queen, at Richmond, 20d.;" but when Pippins are mentioned, which they are only thrice, they seem to have been foreign rarities, as, for instance:—"To a Frenchman that brought a present of Pippins to the Queen in the Tower, 3s. 4d."—Eds.]

NOTES AND GLEANINGS.

At the Royal Horticultural Society's Exhibition at Bury St. Edmunds next year it is proposed to offer the town cups, the subscriptions for which now amount to £39, for Ferns, in something like the following manner:—First twelve Ferns, £15 cup; second twelve, £10 ditto; third twelve, £7 ditto. Mr. D. T. Fish suggests that a three-guinea cup be given by the town for the best window plant grown by a mechanic or common labourer living within the boundary of the borough, gardeners' labourers and nurserymen's men not to be allowed to compete. Mr. T. G. Youngman, of Stowmarket, but formerly of Bury, will be worthily represented by a special prize at Bury. J. A. Hardcastle, Esq., M.P., and Edward Greene, Esq., M.P., the members for Bury, have subscribed ten guineas, to be given in two cups, one of six and the other of four, for the best and second-best hand-bouquets for ladies. The subscription for the Suffolk gardeners' cup is progressing; it now amounts to £6 12s. For the county cup the sum of £26 6s. 6d. has been already subscribed.

A very successful photograph of the Executive Committee of the International Exhibition has just been taken by Mr. Vernon Heath, and is being published by Messrs. Day and Son. Mr. Richard Dean, of 8, Denmark Villas, Ealing, near London, has received an agency for the photograph.

In the *Revue Horticole* M. Carrière has shown that the plant called *Abies Jezoensis* by Lindley, and *Abies Fortunei* by A. Murray, is not the *Abies Jezoensis* of Siebold and Zuccarini, nor an *Abies* at all, but a new genus, which he has named *Keteleeria*, in honour of M. Keteleer, the eminent nurseryman of Paris. The name M. Carrière proposes is *Keteleeria Fortunei*, and it is distinguished from *Abies* and *Picea* in having the erect cones of the latter and the persistent scales of the former.

WORK FOR THE WEEK.

KITCHEN GARDEN.

At the commencement of a new year we would suggest that every article throughout the kitchen-garden department should be correctly named. In addition to this it should be marked when sown or planted, the kind of manure applied, and whether true to name and of good quality. The plan we would recommend is, when thinning out the shrubberies in winter, to select a quantity of elbowed pieces of wood 2 or 3 inches in diameter, and from 2 to 3 feet in length, and on wet days to have them pointed at one end and a smooth face cut at the other, so as to be in readiness when wanted; nothing more is required but a little white paint rubbed on, some cross lines to be drawn with a black-lead pencil, the date to be placed at the top, and other particulars, as in the annexed form. When the crop is cleared the tally is removed, and the remarks, whatever they may be, are entered in a memorandum-book, the face of the tally is planed off with a piece of old glass, and is at once ready for a similar purpose. The inferior sorts are struck out of the next year's seed list, and the seedsmen spoken to about any spurious varieties. Interesting informa-

tion may be thus gained by amateurs, and also by the young men employed in this department. *Asparagus*, the most convenient plan of forcing it is to transfer it to a light pit provided with a moderate bottom heat, and duly covered with light soil; allowed as much sunlight and air as possible, an abundant supply of excellent *Asparagus* may be obtained. This system of removal may be considered extravagant when the destruction of the roots is considered; but its adoption in some instances could not fail to be of use, as a system might be originated of substituting young and healthy stock in place of anciently-established and worn-out plants, whose occupation of the land has continued for many successive years. *Celery*, take advantage of the first dry day that may occur, with the ground in a rather dry state, to earth up closely any that may have outgrown the previous soiling, and be prepared to protect the ridges in case of severe frost. Dry stubble litter answers very well for this purpose; but where they can be afforded light straw or reed shutters are preferable, as being more easily applied, and causing less litter; they are also useful in excluding wet. *Sea-kale*, there is no question but that the best-flavoured and finest is obtained from established plants subjected to no system of forcing, but merely covered with light earth or sand, and brought forward by the natural warmth of the season; but *Sea-kale* is demanded at Christmas, and a more active system of procedure is imperative. The old plan of covering with pots and supplying a stimulating heat by a body of leaves is still preferred by many; but where the additional trouble of half filling the pots with wood ashes or sand can be afforded, good-flavoured *Sea-kale* can be secured. The more recent plan of taking up the roots and forcing them in the Mushroom-house, or any dark place, has its recommendations, both in regard to economy and rapidity of production; only, if the precautions for excluding light be not effectual, the flavour will be deteriorated. *Rhubarb*, the last-mentioned plan is equally advantageous for this.

FRUIT GARDEN.

Planting hitherto deferred should be immediately attended to, otherwise it should be postponed until February. The roots of all newly planted trees should be secured from the effects of severe weather by mulching. Fruit trees are injured by the accumulation of moss and lichen on their branches; where the hand cannot reach them a dashing of lime will effect their destruction. In the absence of frost old walls may be pointed and limewashed.

FLOWER GARDEN.

Whenever the ground is dry let the surface soil about Pinks be moved; and if the worms throw up their casts or are otherwise troublesome, by all means give them a dose of lime water. Seedlings planted out for next year's blooming, if exposed to vermin, should have an occasional dusting of soot; this sprinkled lightly over them will preserve them from snails and other vermin of a similar character, as well as be a safeguard against the wholesale encroachments of rabbits and hares where these sad pests to the florist abound. Auriculas and Polyanthus in frames must have all the air possible; these plants generally grow more robust on an open yet well-sheltered border, but their flowers cannot be protected as in frames, and when the possessor is an exhibitor this is a point of considerable importance: it will, therefore, be requisite, knowing their hardness, to avoid stewing them up, as is too often the case. Turn the bed for Ranunculuses well over for the last time previous to planting, pick out worms of all descriptions, ridge the bed, and give it, after a few days' exposure, a dressing of lime, then level it down and allow it to consolidate, in which state it had better remain until February.

GREENHOUSE AND CONSERVATORY.

Some of the early Chrysanthemums will probably be past their best, and these should be replaced at once, as the plants have but a very shabby appearance when the beauty of the flower is over. Give timely attention to providing a succession of bloom with which to keep the conservatory gay. Be careful not to let plants in bloom suffer from want of water. Give weak, clear manure water to Chrysanthemums, Salvias, Camellias, &c., and use every means to preserve the beauty of specimens in bloom as long as possible. Damp and mildew are the great enemies to be guarded against in the greenhouse in the present state of the weather, and these must be sharply looked after, especially in the case of plants that have not well matured their growth, and are in rather a soft state. If damp prove troublesome it must be dispelled by means of free ventilation on mild days, using a little fire heat at the

1887.	FEBRUARY 14.
SOWN.	
Green Marrow Pea.	
Ground manured with —, &c.	
Double trenched, or single trenched.	
Well pulverised and in good condition.	
Plants up in full row, March —	
In bloom, June —	
Gathered, July —	
True to name, or a few of a spurious	
variety amongst them.	
Good in general quality or not.	
Good yield or not.	
Room left here for any other remarks.	

same time; and of mildew a dry airy atmosphere is the best preventive, but the plants should be frequently examined, applying sulphur on the first appearance of the enemy. Very little water will be required here at present, but the plants should be carefully looked over about twice a-week, so as to make sure that nothing is allowed to feel the want of it. If not already done, let the plants be tied with the least possible delay; for it is very difficult to tie a plant so that it will not look somewhat stiff and unnatural, and the sooner all this kind of work is done the better the specimens will look when in bloom.

STOVE.

Some of the early-ripened tall Cacti may now be introduced either in the stove or forcing-pit, and receive a liberal watering to commence with. If, however, the blossom-buds are not well matured, it is of little use forcing them. Do not encourage any fresh growth among stove plants at this period, rather aim at that kind of routine management which will serve to consolidate the growths already made and to develop the blossoms of the late-flowering plants in a proper way.

COLD PIT.

The present is a very trying season for the inmates of these structures, and every advantage must be taken of mild dry days to give air freely, and a little must be afforded every day when the temperature is above freezing. Also carefully look over the plants at least once a-week, and remove decaying leaves, &c., which, when left, only encourage damp and mildew. Scarcely any watering will be necessary here for some time, and the plants will be all the better of being kept rather dry at the root; but strong healthy plants will probably be found to require water occasionally to prevent the balls becoming too dry, and when water must be given select a dry morning for doing so, and give air freely during the day. See that the frames are well-banked up, so as to be proof against ordinary frost, and do not neglect covering up securely at night.—W. KEANE.

DOINGS OF THE LAST WEEK.

As to general work, in such changeable weather we can only refer to what was said of the vegetable and fruit departments in former notices, similar work being attended to as the weather would permit.

ORNAMENTAL DEPARTMENT.

In fine days proceeded with a thorough cleaning-up in the pleasure grounds, clearing the lawns of all faded leaves, as they contrast so mournfully at this season with the bright green grass, which, if kept nice, is one of the greatest attractions of a demesne in winter. Rolled the grass with a light wooden roller, heavy enough to give a nice level appearance, and send wormcasts ought of sight, or have them attached—licked up, as it were—to the roller, and scraped off at intervals. Such a roller, made simply from the equally rounded bole of a tree, and 1 foot in diameter and 4 feet in length, will enable a man or a stout boy to go over with an easy draught a large space of ground in a short time, when, owing to the wet state of the ground or a shortness of labour power, it would be found unsuitable to use a heavier iron roller. We look on this simple roller as one of the most useful machines for keeping a lawn in nice trim in winter.

Pulled up the few weeds which were seen on the walks, and gave these a good brushing with a new birch broom, from which the slender points had been nipped off with a knife. There is a little art in thus brushing a walk so as to render it fresh and level, and leave scarcely a mark of the broom. This will never be done by working the broom backwards and forwards, but by beginning at one end, and brushing the walk regularly and only in one direction. Thus, if you begin at the north end of a walk you must brush continuously and only to the south, making no back strokes to the north. In this way, with a little practice, scarcely a mark of the birch will remain.

Though the walks thus left were smooth enough for winter wear, we rolled the most prominent of them with a rather light iron roller, and chiefly because in places there were small green marks; and if we should have a sharp frost ere long, we would be able from the smoothness to scrub these places with a hard half-worn broom. After such work the heavy rains of the morning of the 12th made lawns and walks very bright and clean. Let it be impressed on the possessors of small gardens that a few poles of lawn thus nicely kept will afford more satisfaction than as many roads, or even an acre, left to look after itself.

Hardy Florists' Flowers.—This, with the alternations of cold and wet, has been rather a trying time for them, not so much from the cold, as that has hardly been severe enough as yet to necessitate any protection, except a glass covering, and the sashes being kept close as long as the frost was at all severe. The danger arose from damp when the frost was gone, and any neglect to give at once a free circulation of air. One great advantage of having a good collection of Auriculas, Polyanthus, Heartsease, Pinks, and Carnations in establishments where young gardeners were kept, was the habit of care and unremitting attention thus established. In such wet weather Auriculas, Polyanthus, &c., should not only be protected from the wet, but should have a free current of air by tilting the sashes securely back and front, and even when the air itself is almost saturated with moisture it may often be advisable in a dry day to take off a little of the surface soil from plants in pots and replace it with dry compost, which will help a little to keep the air dry about them. In extreme cases we have found the atmosphere much improved by placing good lumps of unslaked lime in open places.

Bedding Plants.—The weather has been rather trying for these, if kept in cold pits and frames, and especially in the frames set on old hotbeds. Damp is the great enemy that we have lately had to contend with. Frequently we have placed bedding plants in frames standing on the top of old hotbeds, but cold before the bedding plants were placed in them; but hardly any worse place could be chosen with glass as a protecting medium. All the rain that falls, unless the frames are furnished with spouting, will fall into the linings or the bed, and be absorbed by them, and thus find its way upwards, in mild damp weather, among the plants. Whenever a few leaves, not to say a few plants, begin to damp, if not taken off at once, the damp will spread like a plague, and ere long leave nothing but skeletons of plants, if it leave anything at all above the surface of the ground. Every damped leaf should, therefore, be removed as soon as perceived. In fine, dry, mild days the sashes should be entirely removed, at least for some hours in the middle of the day. Not a drop more water should be used under such circumstances than can be avoided, and it is best to remove any plant outside that requires watering, and let it drain itself before replacing it. In cases where there is much damp and the soil in the pots is rather wet, it is a good plan to remove a little of the surface soil and replace it with very dry mould, and even to place a dry bottom of ashes or chalk and lime for the bed.—R. F.

COVENT GARDEN MARKET.—DECEMBER 15.

SUPPLIES of all rough goods more moderate. Good dessert fruit is worth rather more, especially Black Grapes and Pears; the latter consist of Bourré Die, Winter Nelia, Glou Morceau, and Ne Plus Mourle. Apples comprise Nonpareil, Blenheim Pippin, and Ribston Pippin. Potatoes at last prices.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	2	0	2	0	Melons each	2	0	4	0
Apricots doz.	0	0	0	0	Nectarines doz.	5	0	0	0
Cherries lb.	0	0	0	0	Oranges 100	5	0	10	0
Chestnuts bush.	10	0	18	0	Peaches doz.	0	0	0	0
Currants ½ sieve	0	0	0	0	Pears (dessert) doz.	3	0	6	0
Black doz.	0	0	0	0	Kitchen doz.	2	0	4	0
Figs doz.	0	0	0	0	Pine Apples lb.	3	0	8	0
Filberts lb.	0	0	0	0	Plums ½ sieve	0	0	0	0
Cobs lb.	0	9	1	0	Quinces doz.	3	0	4	0
Gooseberries quart	0	0	0	0	Raspberries lb.	0	0	0	0
Grapes, Hothouse. lb.	4	0	8	0	Strawberries lb.	0	0	0	0
Lemons 100	5	0	10	0	Walnuts bush.	10	0	20	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes each	0	0	0	0	Leeks bunch	0	3	0	0
Asparagus bundle	0	0	0	0	Lettuce per score	1	0	1	0
Beans, Broad bushel	0	0	0	0	Mushrooms pot	1	0	2	0
Scarlet Run ½ sieve	0	0	0	0	Musd. & Cross, punnet	0	2	0	0
Beet, Red doz.	2	0	5	0	Onions per bushel	2	0	3	0
Broccoli bundle	1	0	1	6	Parsley doz. bunches	0	2	0	0
Brus. Sprouts ½ sieve	2	0	2	0	Parsnips doz.	0	9	1	0
Cabbage doz.	1	0	2	0	Peas per quart	0	0	0	0
Capicums 100	0	4	0	0	Potatoes bushel	2	6	4	0
Carrots bunch	0	4	0	0	Kidney doz.	3	0	4	0
Caulliflower doz.	2	0	6	0	Radishes doz. bunches	0	6	1	0
Celery bundle	1	0	2	0	Rhubarb bundle	0	0	0	0
Cucumbers each	0	0	0	0	Savoy 1	1	0	2	0
pickling doz.	0	0	0	0	Sea-kale basket	3	0	4	0
Endive doz.	2	0	0	0	Shallots lb.	0	8	0	0
Fennel bunch	0	2	0	0	Spinach bushel	2	0	3	0
Garlic lb.	1	0	0	0	Tomatoes per doz.	0	0	0	0
Herbs bunch	0	8	0	0	Turnips bunch	0	4	0	0
Horseradish bundle	2	6	4	0	Vegetable Marrows doz.	0	0	0	0

TO CORRESPONDENTS.

N.B.—Many questions must remain unanswered until next week.

MAKING FRUIT (Empire).—Let each fruit have a number pasted upon it, be wrapped up separately, and the whole be sent in a box or basket, carriage paid.

SACCOLARIUM ORCHATEUM OR DENDROBIUM.—In the Floral Committee report, page 444, the above is misprinted Dendrobium. Elsewhere the plant is referred to under its correct name.

STOVE (Mrs. Bryant).—We use Hay's Constant Stove without a flue to heat a conservatory of the size you name. You can have "Florists' Flowers" free by post from our office if you enclose five postage stamps with your address. It contains directions for cultivating the Chrysanthemum.

SLATE CLOTH—EARTH CLOTHS (A. A. Y.).—Both have been noticed in our columns. Cottagers would either use the slates as directed or would not deserve to remain as tenants. Morello Cherries would answer on the north aspect, and if near a town would readily find a market at the confectioners' and elsewhere. Apricots are an uncertain crop; but no advice can be given in the absence of any information as to locality and soil.

FOWLS AMONG FRUIT TREES (H. Bover).—Your half-dozen fowls will do no harm to the fruit trees nor to the Strawberry plants at this time of the year; but in the spring they might pick the young leaves and flower-buds. They will clear the surface of slugs, &c.

SCHIZOSTYLIS COCCINEA CULTURE (W. A. O.).—Plant early in spring in free sandy loam well manured. A few flowers will appear in June; but the great show is in autumn, from October to December. The plants are now beautifully in bloom, but the stalks are turning a little yellow. Take up the bulbs as soon as the stalks are dead. Schizostylis coccinea is perfectly hardy, and may be left in the ground for a year or two if planted for a permanent.

COTTON SEED (Mississippi).—We do not know of any one who can furnish Cotton seeds for experiments. Perhaps some of our correspondents will oblige us by stating who can furnish such seeds.

HAY'S CONSTANT STOVE (A Regular Subscriber).—Two bushels of the charcoal last a month, and it costs 22d. per bushel.

FUCHSIA REVERA (X. Y. Z.).—The old and young plants (if not cuttings of the current year) may be placed in the potting-shed, from which frost must be excluded, and should be kept dry at the roots, and yet not so dry as to cause the wood to shrivel. In March the plants may be pruned in to two or three eyes, taken out of the pots, and most of the soil having been shaken from the roots, placed in pots a size less than those they were in. Place in a light and airy part of the greenhouse; bottom heat is not absolutely needed. Give a gentle syringing morning and evening, and do not over-water, yet keep the soil moist. When the plants break, or new shoots are produced, thin or disbud the shoots where likely to be too close, leaving them evenly distributed, so as to produce a well-balanced head. Repeat when the roots fill the pots without becoming too closely packed. Stop the shoots when they have made three good joints, and again at every third leaf until within six weeks of the time at which they are required to be in flower, giving them their last shift a fortnight previous to the last stopping.

CINERARIA FLORIFLORA UNBLOSSOMING (Idem).—You cannot now do any good by stopping the plants showing their flower-buds. They must go to flower, but you may pinch back those not showing buds to three leaves repeatedly up to the end of February, pegging and tying out the shoots so as to produce a compact head. The plants that have only a single stem you may allow to grow as such to flower in March, or pinch out their points at the third leaf, and the shoots which they produce in like manner at the third leaf, up to the end of February. You started or potted the suckers or offsets too soon. August was early enough for your purpose. As you cannot give them more pot room, let every alternate watering be of liquid manure not very strong.

HERBACEOUS CALCOLARIA (Idem).—Shift at once the plants now in small pots into 4½-inch pots, using a compost of turfy loam and leaf mould in equal parts, with a liberal addition of sand. Keep moist and cool, just free from frost, on a shelf near the glass, and give abundance of air. Pinch out the centre from amongst the leaves, and when the pots become full of roots shift into six-inch pots. Keep free from green fly by fumigating with tobacco, and if afforded plenty of moisture the plants will grow well. Shift into eight-inch pots in February, or early in March. The white sand is the best.

ACACIA ARMATA AND OTTUS RACHNEUS SUPERBUS NOT FLOWERING (J. H. Bayly).—These plants should be kept in a light and airy greenhouse from which frost is excluded. In a sitting-room the atmosphere is too dry for their making a free growth, and the light insufficient to properly ripen that made. Place them in a greenhouse, encourage them to make a good growth in spring, and when it is made place them out of doors in an open, sunny situation—say, in the end of June, and keep them there, well supplied with water, until the end of September; we have no doubt they would then flower well in the following spring. The soil should not be kept dry now; they are evergreens, requiring the soil to be moist at all seasons, but less so in winter than summer. They may have the soil to all appearance dry now, only the foliage must not be allowed to suffer. They should not be cut down now, but in spring, after flowering, or before new growths are made. They flower from the wood of last year, or that now existing, and not from that of next year. A compost of turfy loam and sandy peat suits them well. Avoid manure; if the plants need to be stimulated, the compost may consist of turfy loam, sandy peat, and leaf mould in equal parts.

HIBISCUS ROSA-SINENSIS (Idem).—There is no means of causing a double-flowering plant to degenerate into single-flowered, though some plants will do so, but they are not double-flowered, but only semi-double, requiring good cultivation to keep their flowers so. The single-flowering Hibiscus is not kept by nurserymen, as it is inferior to the double, and they grow that most asked for. You may obtain a packet of seed of the single Hibiscus through any of the principal seedsmen.

CUTTING BACK CLEMATIS FROM STONE (Idem).—So far from preventing your plant flowering you will ensure its doing so by cutting it back to 4 or 5 feet. Though it flowers from the shoots rising from the wood of last year, you will have enough of those, and by cutting it in you will secure a better plant.

HIBISCUS COOPERI AND CIRCUS DISCOLOR (J. C. C. H.).—During winter the first of these plants requires the temperature of a stove (50° to 60° at night), and to have a moderate amount of moisture and air, with water sufficient to keep the soil moist, but not wet nor yet dry. The Cirsium requires a like temperature, and no water beyond a little occasionally, to prevent the wood shrivelling.

PLANTAINS AND DANDELIONS ON A LAWN (—).—The best plan of extirpating the Plantains is to grub them up by the root with a spud, and the Dandelions with a small Dook fork, during mild, moist weather, going as deep as to remove the thick portion of the root. It may be done in spring, a pinch of salt being dropped into each hole, which should be afterwards filled with soil.

VINES PLANTING (E. S.).—The old Vines your friend has made a new border over will, no doubt, produce a fair crop. The young ones planted in the new border will do well if the old Vines do not interfere with their growth, by shading and otherwise depriving them of a share of the roof, or that necessary to their free growth. The Potatoes named may be had of Messrs. Sutton & Sons, Reading.

HERBACEOUS PLANTS TO FLOWER IN JULY (Tweedside).—Tagetes nudicaulis, Gnolthera macrocarpa, Lythrum roseum superbum, Lychnis Haageana, Erigeron speciosus, Delphinium Belladonna, and Agrostemma coronaria. For September Gnolthera grandiflora, Silene Schaffa, and Plumbago Larpenae.

APRICOTS FOR SOUTH WALL (Idem).—Hemlock and Moorpark.

PELARGONIUMS TO FLOWER IN JULY (An Amateur).—You may stop them until the beginning of May, retarding the plants afterwards if necessary by shading from bright sun, and keeping cool with plenty of air. The best way to bring on young plants is to commence with them early in the season, by cutting them in July, and stopping, potting, and growing on so as to have them in their blooming pots by December for an early, and by February for a late bloom. Moderate shifts are better than one large shift.

VIOLETS FOR WINTER (Celia).—The best plan is to take off the suckers or runners in May and pot them singly in small pots in a compost of turfy loam two-thirds, and leaf mould one-third. Place them in a cold frame, and keep close, moist, and shaded, until established. Remove the lights gradually, keep the plants well supplied with water, and when the pots become full of roots shift into six-inch pots, draining these well, and using the same compost as before. The plants require moisture and coolness during the summer, and they will grow well if the pots be plunged. In September they may be returned to a frame, and remain plunged in ashes, with the protection of a mat over the lights in severe weather, drafting them into the greenhouse as they are wanted to flower, and always selecting the most promising.

GOODYERA DISCOLOR CULTURE (Clericus).—The pot ought to be one-third filled with crocks, and the compost should consist of turfy or fibrous peat, and chopped sphagnum, with a free admixture of silver sand and broken charcoal, from which the dust has been sifted out. The sand and charcoal together may form one-third of the compost. If cocoa-nut refuse can be had it may be used in place of the sphagnum. The Goodyera should be potted when it recommences growth, and water must be somewhat sparingly given at first, but increased with the growth, abundance being afforded both at the root and in the atmosphere when the plant is growing freely. In potting, press the compost firmly. Free ventilation should be given day and night, and a temperature of from 60° to 85° in summer, and from 45° to 50° in winter will suit it. It should be shaded from bright sun. When at rest but little water is needed, yet the plant should not be allowed to suffer; it should have a little now and then over the pot—a gentle bedawing to keep it plump and fresh. Avoid cold currents of air, and do not allow cold air to come in contact with the leaves whilst wet, as they may thus become discoloured.

BURNED CLAY (T. Dickson).—Your clay burned until it resembles lumps as hard as bricks ought to be easily broken. If it cannot, it has been too much burned. Your burning it was right; but we do not perceive what value it will be for your light soil, as the latter will only be rendered still more open by dressing it with the burned clay, which, however, is very good for heavy land. If you were to place lumps of clay on the ground in spadefuls at about a foot apart, the lumps when frozen through would crumble on a thaw, and you might then spread the clay and dig it in. Your land would thus be made more adhesive, and become better suited for fruit trees. Your leaf mould will do for mixing with the soil and for mulching the trees. Cool manure, such as that of cows, will be best for your soil.

FLOWER POTS (R. Smart).—Flower pots are of various sizes and names. Thimbles and thumbs are any size under 8 inches in diameter at the top.

	Width of top in inches.	Depth in inches.	Old name.
Three-inch pot	8	4	60s
Five-inch	5	5	46s
Six-inch	6	6	32s
Eight-inch	8	8	24s
Nine-inch	9	9	16s
Eleven-inch	11	10	12s
Twelve-inch	12	11	8s
Thirteen-inch	13	12	6s
Fifteen-inch	15	13	4s
Eighteen-inch	18	14	2s

SEA-KALE FORCING (R. T.).—If the large-spread heads of the Sea-kale, too large to be covered with pots, come from one strong underground stem or root, then you will not be able to part them; but if the bunch consists of several underground roots, then you may divide them. We would not do so, however; we would put in a few stakes round the stools, and twist a rope of straw or a hayband round them, fill the opening at top with a large plug of straw, and then cover with the fermenting material in the usual way. In fact, if your fermenting material is leaves, you may mark all the places where the plants are, and cover over all a foot thick. As the plants grow they will raise the leaves. It does not matter what the sizes of the pots are with which you force Sea-kale when taken up. If packed in moist soil it will need no water for a good while.

SCARLET PELARGONIUM FOR EDGING (E. J. C.).—We think that Baron Hugel planted thickly would suit you, and the dark marking of the leaf is pretty. For a plain leaf, Harkaway and Harry Hieover are very good.

SELECT PELARGONIUMS (*Beseda odorata*).—Of those you name, Clipper, Eleanor, Monsieur Martin, Eugénie Mesard, and Madame Vaucher would give you variety and answer your conditions for pot culture. For bedding—Clipper, Roi d'Italie, Lord Palmerston, Glowworm, Madame Vaucher, and Madame Barré will do very well, but you give no information as to the colours you require, and limit our selection to certain varieties. Consult an article at page 119.

ARRANGEMENT OF VINEY (*H. J. C.*).—We quite approve of the proposed arrangement of the Vine-border, raising and transplanting the Vines in the house; but under the circumstances, considering the age of the Vines now against the wall and trained horizontally, and which showed signs of mildew last season, we would rather leave them where they are, treat them for mildew there, and plant some good strong Vines in the house instead. We feel certain this would be the best plan to pursue.

OLD VINEY (*A. Novice*).—We would rather say nothing of an old viney, 100 feet in length, costing between £800 and £400 to take it down, convey it to its fresh site, and put it up again, and we are doubtful of its being worth £800 or £700 when done. 1. The transplanted old Vines will do if the roots have been carefully traced, but if the roots now placed in an old shed begin to grow before planting in March, it would be well to remove without disturbing them. If the roots have not begun to push it will not matter, but the sooner they are planted the better. If the roots are much knocked about, we would prefer young Vines to the old ones. 2. As to your border, if your surface soil is only 18 inches from the water you would require to concrete 6 inches below the present surface-drain, cover with 6 inches of clinkers, and place your border of 2 feet or 30 inches entirely above the surface; but if you have nothing but sand, and no loam can be had, we do not know how you will manage with it for Vines, though manure and bones will do much. 3. We would in any case plant the Vines inside the house; if the house is wide, we would be satisfied with the inside border; if the house is narrow, we would have an outside border also, and the front wall on arches, and we would do this in any case if there were to be fruit trees on the floor of the house. 4. The growing of fruit trees and flowers below the Vines will depend on how much the Vines shade the roof. See "Doings of the Last Week," page 450. 5. See second head. We would advise you to procure from our office the "Vine Manual," which you can have free by post for thirty-two postage stamps.

VIOLA CORNUTA FROM SEED (*A. B. A.*).—Sow *Viola cornuta* seed at once, and place the pans in a cold frame; or sow on a warm sheltered border. It will, however, be better in a cold frame. The seed should be sown thinly and covered about 1½ inch deep.

HEPATICA PROPAGATING (*A Subscriber*).—Early in March take up the root and divide it into as many parts as there are crowns; if each division have some roots attached to it, success will be almost certain. Plant the divisions in a situation not overhung by trees, and sheltered from the sun's rays from 10 A.M. to 8 P.M., or shade with a mat placed over them during the mid-day hours when the sun's rays are powerful. Work into the soil a liberal dressing of leaf mould, and if the soil be heavy, of sand also. Plant quite up to and even bury the crown half an inch, and put them in lines 6 inches apart, and 8 inches from plant to plant in the lines. Keep well supplied with water until established, discontinuing it and the shading after May.

SAWDUST FOR PLUNGING POTS (*J. H.*).—Sawdust is a very good plunging material, and in nowise injurious to the plants plunged in pots in it, though it does sometimes foster fungus, and it is then more or less injurious.

COLETS VERSCHAFFELT BOWING (*Idem*).—This may be raised from seed, but it does not come true, as few variegated plants do, and we do not know that it is so raised, it being so easily propagated by cuttings. We do not know where seed may be obtained.

WINTERING PELARGONIUMS IN A WINDOW (*Fred*).—You have everything to hope and little to fear in wintering Pelargoniums in a window. You must not, however, act as you propose with regard to water. You must not water them as long as the leaves remain fresh, and the stalks or stems of the cuttings do not shrivel. You cannot keep them too dry, providing the leaves remain green; but if these droop water them at once, giving sufficient water to show itself at the bottom of the pots. Take advantage of every mild fine day to give them air, and when frost sets in remove them from the window to a place of safety. Do not water regularly, only when moisture is required.

NAMES OF FRUIT.—(*Mr. Talbot*).—Your Apple is Rosemary Russet (*W. P. Thirk.*).—Pears: 2, Josephine de Malines; 3, Susette de Bay; 4, Beurré Diel; 5, Red Doyenné; 6, Dunmore. Apples: 1, Brookes; 2, Pigeon; 4, Grey Leadington; 5, Golden Reinette. (*J. Berry*).—Your extraordinary-shaped Pear is the Bourgmester. It is sometimes curved; but we never saw one so long as that you have sent. Have you any more of the fruit? and where was it grown?

NAMES OF PLANTS (*F. B.*).—1, *Nephrolepis exaltata*; 2, *Aspidium trifoliatum*. (*Rusticus*).—You must send better specimens. (*Clericus*).—1 and 2 are *Gymnogrammas*, but the fragments sent are insufficient to determine the species; 3, *Adiantum setulosum*. (*J. Shepherd*).—1, *Kleinia articulata*; 2, probably an *Artemisia*; 3, a *Phyllocactus* or *Cereus*, but without flowers we cannot venture to name it; 4, *Cleisomeria longiflora*, probably; 5, *Litobrochia vespertilionis*; 6, *Maxillaria picta*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending December 15th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun... 9	29.855	29.044	55	31	43½	46½	S.	.06	Overcast : rain at night.
Mon... 10	30.128	29.495	53	24	44	45½	N.W.	.02	Partially overcast; fine, with sun; frosty.
Tues. .. 11	30.280	30.172	52	28	45	45	S.E.	.13	Foggy throughout the day; rain at night; frosty.
Wed. .. 12	29.813	29.451	56	44	44	45	S.W.	.04	Densely clouded; strong S.W. wind; slight rain.
Thurs. 13	29.531	29.535	58	33	45½	45½	S.W.	.30	Rain; cloudy, with slight rain; fine at night.
Fri. .. 14	29.470	29.777	50	28	46	45	W.	.00	Overcast; very fine throughout; slight frost.
Sat. ... 15	29.542	29.872	51	38	46½	45	W.	.15	Overcast; showery; constant rain; fine; rain.
Mean	29.728	29.612	53.28	32.57	44.93	45.33	..	0.59	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

THE POULTRY CLUB.

THE yearly meeting, at Birmingham, of this Association was held at Bingley Hall Tavern, on Monday, the 3rd inst. The attendance of members was numerous, and Mr. F. Esquilant was by them elected to the chair.

The minutes of the previous meeting were read and confirmed, after which the Hon. Sec., F. W. Zurhorst, Esq., laid the Stewards' Report before the Club. From this it appears that there are 114 members, and that their subscriptions are for the most part satisfactory; that the total income for the year was £37, and that the Rochdale Show held in February last was financially a failure. Mr. Zurhorst explained this in several ways. Firstly, that the time allowed for preparation was too short; secondly, that the building in which it was held was too small and not adapted for the purpose, as the number of entries, estimated at five hundred, exceeded one thousand; and lastly, that the amount taken for admission from visitors during four days was only £43. Nevertheless, all demands had been paid in full, partly from the funds of the Club, and partly by a call on the guarantors to the extent of half their liability—namely, £75, which had been most readily and cheerfully paid.

The Hon. Treasurer, Mr. Tudman, then tendered his report and balance-sheet, likewise his resignation of office, and immediately left the room.

The ballot for officers next proceeded. On examination of the voting papers, it was found that Sir St. George Gore, the Hon. H. W. Fitzwilliam, Captain Heaton, and Messrs. Fowler, Boyle, and Stretch had been elected Stewards; Mr. Munn, Hon. Treasurer; and Mr. Zurhorst, Hon. Secretary. The Judges were—Messrs. R. Teesby, J. Douglas, J. Dixon, W. H. Tegemeier, F. Esquilant, and H. Weir.

The Club then proceeded to discuss the various motions in the order set down. It was proposed by the Hon. Secretary—"That the Hon.

Treasurer be requested to explain the cause of delay in paying over the sum voted by the Stewards for the liquidation of the liabilities of the Rochdale Show, the same not having been paid to the Local Secretary until July, thereby delaying the settlement of the accounts and jeopardising the credit of the Club." The Hon. Treasurer having resigned office and left the room, the motion fell to the ground, but an explanation was offered by Mr. Zurhorst exculpating Mr. Tudman from any blame in the matter.

The two following motions, and an amendment on the second by Mr. Fowler, were all to the same point—namely, the appointment of Judges. Mr. Harvey proposing—"That in the opinion of this meeting the office of Judge should not be confined to members of this Club, but that a list of Judges of high standing be formed by election, and equally recommended by the Stewards." Mr. George Manning, seconded by Sir St. George Gore, proposed—"That in the opinion of this meeting the present system of judging is most inefficient and unsatisfactory, by reason of the small number of Judges employed, and the assumed universality of their experience; and that a classified list of Judges of acknowledged efficiency be formed, not confined to members of the Club, stating the special varieties for which they are more eminently adapted, and that the same be published for the guidance of Show Committees." Both these motions, although forcibly impressed upon the Club as to their importance, were lost, in one instance only by the casting vote.

It was also proposed by Mr. J. Holme—"That the annual Show next year shall be a Chicken Show, to be held in September, and that Liverpool (where there is no poultry show), will be an eligible place." Mr. J. K. Fowler and Mr. Hendry also proposed—"That a grand Show be held in the autumn, and that the Crystal Palace would be a desirable place." Both these motions were lost, but it was recommended by the Stewards that a Show should take place in Birmingham in October next, and it was resolved that the Hon. Secretary should write to the officials of the Crystal Palace and the Alexandra Palace, to ascertain what terms could be made. Mr. Hinton's motion—"That the question of railway carriage should be further taken into consideration," was met by the statement—"That the memorial

drawn up by the Rochdale Committee and presented to the several companies by Mr. Fowler, Mr. Dixon, and Capt. Heaton, had been answered by the various Secretaries of lines to the effect that no change could be made, and that many Companies already more than complied with the terms of the memorial."

It was further stated, that Messrs. Routledge had applied for permission to print at the end of the "Poultry Book," published by them, the "Standard of Excellence;" and another question was offered for the consideration of the Club, as to the best method of disposing of the remaining copies. It was suggested that the Stewards should endeavour to make terms with Messrs. Routledge in the matter.

The following new members were elected—Bowman, Esq., Whitehaven; The West Cumberland Poultry Society; W. P. Merry, Esq., Coventry; Mr. R. K. Clay, Dublin.

After a vote of thanks to the Chairman the meeting separated.

WHAT HAS THE POULTRY CLUB DONE FOR ITS MEMBERS?

THE above question forcibly suggested itself to me at the late meeting of the Club in Birmingham, when a member high in office informed me that the "Standard of Excellence" had long since been cast aside as useless, and the proposition afterwards that Messrs. Routledge should publish the "Standard" in Mr. Tegetmeier's "Poultry Book" confirmed the statement, and appeared to make the unsold 140 copies (worth £35 to the Club) useless also.

It is well known that our leading poultry judges have openly repudiated being bound by any rules or "Standard;" yet it was suggested by (supposed) influential members, and only lost by the casting vote of the Chairman, that certain of these leading judges—not members of the Club—should be elected judges for the Club: thereby openly admitting the failure of the "Standard of Excellence." At the Rochdale Show everybody naturally expected to see awards in accordance with the "Standard," but to the general astonishment there was scarcely a class so judged.

I am here reminded that the Rochdale Show must have cost the Club something like £30, and yet another Show is suggested at the Crystal Palace. Surely, if a large company like the Crystal Palace Company cannot make a show answer, a small club never will. Birmingham has also been suggested. Rochdale Show ought to be a lasting lesson! Will the dupes of that affair again come forward as guarantors? From what I saw and heard at the Birmingham meeting, the working of the Club costs more than half of the receipts, and the benefit derived from five years' subscription, amounting to £2 12s. 6d., is a book (now said to be worthless), of the supposed value of 5s., and the pleasure of attending two meetings in the year to hear the Honorary Secretary read a report, and make motions and suggestions amounting to nothing.

If I recollect rightly Mr. Tudman in tendering his resignation of the honorary treasurerhip said something about "bad treatment, and that not a farthing of the proceeds of the 'Standard of Excellence' had passed through his hands," and this, I observe, is carefully omitted in the reports of the meeting. How does this arise? Mr. Tudman and Mr. Ashton were, I believe, the founders of the Poultry Club, and well knowing that no member had its interests more at heart than Mr. Tudman, I therefore think that an explanation is necessary as to why that gentleman takes so summary a farewell.—A MEMBER.

RESULTS OF THE BIRMINGHAM POULTRY SHOW.

THIS year 406 pens were sold for the aggregate sum of £1408 10s. In 1866, the number of pens sold was 259, and they realised £996 17s. 6d. Among the pens sold were the following:—Mr. Thos. Burgess's first-prize Brown Red Game cock, £21; Mr. Henry Beldon's first-prize Spanish hens, £20; Mr. J. C. Ord's first-prize pair of Carrier Pigeons, £20; Mr. B. W. Boyle's commended Buff Cochins cock, £20; Mr. George Fell's first-prize Buff Cochins hens, £15; Mr. H. Mapplebeck's Buff Cochins cock, £12 10s.; Mr. J. Nelson's highly commended Buff Cochins cock, £15 15s.; the Hon. H. Fitzwilliam's Dorking cock, £12; the Hon. H. Fitzwilliam's Crève Cœur cock, £12; Mr. G. Fell's first-prize Buff Cochins pullets, £10 10s.; Mr. Jas. Dixon's first-prize Mandarin Ducks, £10 10s.; Mrs. Arkwright's first-prize Dorking cock, £10 10s.; Mr. Robert Chase's first-prize White Cochins pullets, £10 10s.; Mr. Yardley's first-prize Bunt Pigeons, £10 10s.; Mr. H. Beldon's highly commended Polish cock, £10 10s.; Mr. Silvester's first-prize

Polish cock, £10 10s.; the Rev. G. Hustler's second-prize Dorking hens, £10 10s.; Mr. J. W. Morris's Game Bantam cock, £10; Mr. F. Sale's fourth-prize Brown Red Game cock, £10; Mr. H. Mapplebeck's highly commended Buff Cochins pullets, £8 8s.; Mr. Aykroyd's first prize Game pullets, £8 8s.; Mr. H. Mapplebeck's Buff Cochins hens, £7 15s. Three pens of Dorkings sold for £33. Three pens of Game sold for £39. Three pens of Buff Cochins sold for £55 15s. £25 was refused for two Game hens. Three first-prize pens of Buff Cochins sold for £32 10s. Three pens of same breed, which did not receive prizes, sold for £48 5s.

HANLEY (STAFFORDSHIRE) POULTRY AND PIGEON SHOW.

THE Committee of the Hanley Exhibition have this year placed before the public their second meeting for the exhibition not only of agricultural products, but also excellent collections of poultry, Pigeons, Rabbits, and foreign and British song birds. In each of these departments it has proved a complete success, and the competition in the poultry was such as is but rarely met with, even at our exhibitions of longest standing. When it is remembered that £400 in money, besides at least £100 worth of first-class pottery, was offered as premiums, such a display of the best of poultry might easily be accounted for. The services of china, &c., proved a most acceptable change from the now-too-general proffer of silver cups alone; they were generously presented to the Society by a number of the manufacturers in the neighbourhood of Hanley.

The show of Grey Dorkings was admirable, and not less so was that of Spanish fowls; but, strange to say, only a single pen of White Dorkings was entered. The Cochins were shown irrespective of colour, and the principal prize (we believe a very handsome china dinner service), was obtained by a pen of Partridge-coloured that at any show will not be easily beaten; they were the well-known pen of Mr. Joseph Stephens, of Walsall. Mr. Henry Bates, of Vintage House, Yardley, was a very close second with capital fowls. Excellent White Cochins were also shown in this class. In *Brahmas*, both dark and light-feathered competed together, the dark were the only prizetakers. As a kind of practical joke, a pen of White Cochins was exhibited in this class, to the no little merriment of some visitors, whose predilections are not favourable to "the Brahmas fancy." There need not be a better class than the Black *Hamburghs*, nor than the Golden and Silver-spangled *Hamburghs*, but the Golden-pencilled were not by any means praiseworthy. Very excellent *Polands*, both Silver-spangled and Black, were shown, with unexceptionably developed crests. In the *Game* classes the show was capital, many of the principal birds being shown in first-rate plumage, though we could not help noticing that the majority of these birds were not yet fully moulted, a most unusual circumstance so late in the season, and one that tells most unfavourably on Game fowls. The Sebright Bantams, although much better than usual of late, were a poor apology for those exquisite specimens so generally exhibited at the earlier of the Birmingham Shows. The *Game Bantams*, and the Black and White ones, were scarcely so good as most parties anticipated.

It was in *Ducks*, *Geese*, and *Turkeys*, that the Hanley Show especially excelled, and weights were attained which many visitors could scarcely credit—Aylesbury Ducks, 24½ lbs.; Rouen Ducks, 20½ lbs.; Turkeys (adults), 56 lbs.; single cock Turkey, 28 lbs.; White Geese, 75 lbs. 6 ozs.; and Grey Geese, 42½ lbs.

A "Selling Class" was held, but it would be decidedly the wisest policy to restrict this competition to a fixed number of birds in each pen; as it was, single Geese, single Game cocks, and single *Hamburgh* cocks were exhibited, quite breaking in on the uniformity of the class.

The Committee were very persevering in their efforts to promote the comfort of the birds, and to please every one, and as the weather was favourable the neighbouring gentry mustered very strongly.

DORKINGS (Coloured).—First, T. Burgess, Burleydam, Whitechurch. Second, F. S. Arkwright, Etwell Hall, Derby. Commended, Mrs. Bailey, Shooters Hill, Longton; W. T. Everard, Alton Grange, near Ashby-de-la-Zouch.

DORKINGS (White).—First, withheld. Second, T. Leech, Newcastle. **SPANISH.**—First, J. Walker, Wolverhampton. Second, T. Oliff, Hanley. Highly Commended, A. O. Worthington, Newton Park, Burton; J. Clews, Walsall; Mrs. J. Mansell, Longton; J. W. Cannan, Bradford. Commended, H. Greenwood, Woodall Hills, near Bradford.

COCHIN-CHINA.—First, J. Stephens, Walsall. Second, H. Bates, Yardley, Birmingham. Highly Commended, H. Yardley, Birmingham; J. Nelson, Heaton Mersey, Manchester; Rev. S. O. Hamerton, Warwick. Commended, T. Sherratt, Bradley Green, Blidulph; E. Shaw, Plas Wilmot, Oswestry; H. Yardley; T. Boucher, Birmingham.

BRAMA POOTRA.—First, J. Heath, Nantwich. Second, Mrs. M. Seamons, Hartwell, Aylesbury, Bucks. Highly Commended, C. Butler, Handsworth; J. Stephens. Commended, A. O. Worthington; W. B. Etches, The Woodhouses, Whitechurch.

HAMBURGHS (Black).—First, J. W. Cannan. Second, C. Sedgwick, Keighley. Highly Commended, J. Fielding, Newchurch, near Manchester; Messrs. Ashton & Booth, Broadbottom, near Mottram. Commended, G. Prince, Burslem.

HAMBURGHS (Golden-pencilled).—First, A. O. Worthington. Second, J. W. Cannan.

HAMBURGERS (Silver-pencilled).—First, J. Platt, Dean, Bolton. Second, H. Pickles, jun., Warby, near Skipton, York. Highly Commended, Duke of Rutland, Trentham; J. Platt, J. Thrush, Bradford.

HAMBURGERS (Golden-spangled).—First, A. K. Wood, Castle Donington, near Derby. Second, N. Marlor, Denton, near Manchester. Highly Commended, H. Mason, Walsall; T. May, Wolverhampton; J. Roe, Hadfield, near Manchester; T. Burgess. Commended, E. Hall, Leek; W. Tutton, Leek.

HAMBURGERS (Silver-spangled).—First, Duke of Sutherland. Second, J. Fielding, Newchurch, near Manchester. Extra Second, Mrs. Flynn, Hardingswood, Kidsgrove. Highly Commended, T. Fletcher, Great Malvern. Commended, Rev. W. Bergantson, Acton Burnell Rectory, Shrewsbury; A. K. Wood; J. Cannan; E. Leech, Rochdale; F. S. Bagshaw, The Heath, Uttoxeter.

POLISH (Black with White Crests).—First, R. Charlesworth, Brooks Bar, Manchester. Second, J. Mansell. Commended, J. Mansell.

POLISH (Golden).—First, withheld. Second, D. Harrison, Fenton.

POLISH (Silver).—First, J. Percival, Harborne, near Birmingham. Second and Extra Second, J. Heath, Nantwich. Highly Commended, Messrs. S. & R. Ashton, Mottam, near Manchester.

GAMES (Black-breasted Red).—First, J. Heath. Second, W. Wainwright. Highly Commended, H. Bailey. Commended, G. Bagnall, Draycott.

GAMES (Brown or other Reds, except Black-breasted).—First, T. Burgess. Second, W. Wainwright. Highly Commended, G. W. Cooper, Haxelaw, Nantwich; W. Wainwright. Commended, G. F. Ward, Wrenbury, Nantwich; G. Lunt, Bank House, near Market Drayton.

GAMES (Duckwings, and other Greys and Blues).—First, W. Wainwright. Second, G. Swift, Fulford, Stone. Highly Commended, T. Robson, Penkridge. Commended, G. A. Edwards, Newport, Salop; G. Bagnall; J. Fielding, Cresswell.

GAMES (Blacks and Brassy-winged, except Greys).—Second, A. O. Worthington. First withheld.

GAMES (White and Piles).—First, W. Wainwright. Second, A. O. Worthington.

GAME (Best single cock of any variety).—First, H. Bailey. Second, W. Wainwright. Highly Commended, W. Galley, Nantwich; C. Rowley, Hanley. Commended, G. F. Ward; T. Burgess.

BANTAMS (Gold-laced).—First, T. C. Harrison, Hull. Second, G. W. Boothby, Leuch. Commended, R. Charlesworth, Brooks Bar, Manchester.

BANTAMS (Silver-laced).—First, Messrs. S. & R. Ashton. Second, T. C. Harrison. Commended, G. W. Boothby.

BANTAMS (White, clean-legged).—First, J. R. Jessop. Second, Messrs. S. & R. Ashton.

BANTAMS (Black, clean-legged).—First, J. W. Morris, Bechdale. Second, J. R. Jessop.

GAME BANTAMS (Black-breasted).—First, J. W. Morris. Second, T. Burgess. Highly Commended, R. Charlesworth. Commended, W. H. Ousey, Etwell, Derby; W. Hopwood, Hanley; J. Adkins.

GAME BANTAMS (Brown or other Reds, except Black-breasted).—First, G. F. Ward. Second, no competition.

BANTAMS (Duckwings).—First, W. Griffiths, Nantwich. Second, Mrs. Pettison, Maldon, Essex.

DUCKS (White Aylesbury).—First and Second, Mrs. M. Seamons. Highly Commended, Mrs. M. Hornby, Darnhall, Winsford; Mrs. M. Seamons. Commended, Mrs. M. Hornby; W. H. Crewe, Etwell, Derby.

DUCKS (Rouen).—First, J. Mellor, Stallington, Stone. Second, T. Burgess. Highly Commended, G. Bradford, Hanley; J. Nelson, Heaton Mersey, Manchester; H. Ashton, Polefield, Prestwich, Manchester; H. Prince, Nantwich; J. Lycett, Stafford; G. Bagnall.

DUCKS (Any other variety).—First, H. Saville, Ollerton, Notts (Carolinas). Second, T. Harrison (Grey Call Ducks). Highly Commended, J. R. Jessop (Buenos Ayres); Rev. J. Sneyd (Grey Call Ducks). Commended, T. Whittingham (Muscovies).

TURKEYS.—First, F. E. Richardson, Bramshall, Uttoxeter. Second, T. Burgess. Highly Commended, S. H. Stot, Rochdale; W. Bagnall, Cresswell, Cheshire; J. Brassington, Barlaston, Stone.

TURKEYS.—First, A. O. Worthington. Second, T. Burgess. Highly Commended, F. E. Richardson; W. Tams, Dayhills, Hilderstone, Stone; Miss E. Wilkinson, Madaley, Newcastle.

GEES (White).—First, Mrs. M. Seamons. Second, J. Lycett, Stafford. Highly Commended, H. Saville; J. Lycett; T. Burgess.

GEES (Grey and Mottled).—First, S. H. Stot. Second, A. O. Worthington. Highly Commended, J. Brassington; Mrs. M. Seamons.

SELLING CLASSES.—First, J. Booth, Church Lawton. Second, T. Cliff. Third, J. Faulkner, Crown Bank, Hanley. Highly Commended, J. Faulkner. Commended, F. D. Mort (Golden-pencilled Hamburgs); W. Wainwright.

EXTRA COCK.—Commended, G. Bradford, Hanley (French Gueldres); — Clarke, Colridge (Pasecek).

PIGEONS.

TUMBLERS.—First, H. Yardley. Second, J. Fielding, jun., Bechdale. Highly Commended, J. Percival, Harborne, near Birmingham; H. Yardley.

CARRIERS.—First and Second, G. C. Holt, Tunstall. Highly Commended, H. Yardley; J. W. Edge, Aston New Town, Birmingham. Commended, H. Yardley.

POWERS.—First, H. Yardley. Second, W. R. Rose, Cranley Hall, near Kettering. Highly Commended, W. R. Rose. Commended, Messrs. Grant & Tomlinson, Thorne, Yorkshire; G. Tunnicliffe, Hinckley; E. Butterworth, Nantwich.

BALDS.—First, J. Fielding, jun. Second, no competition.

BEARDS.—First, J. Percival, Peckham Rye. Second, J. Fielding, jun.

BUNTS.—First and Second, H. Yardley.

JACOBIANS.—First, H. Yardley. Second, Messrs. Grant & Tomlinson.

FANTAILS.—First, J. R. Jessop. Second, H. Yardley. Highly Commended, B. Van Haasbergen, Newcastle-on-Tyne; J. W. Edge.

TRUMPETERS.—First, T. Robson, Penkridge. Second, Rev. W. J. Mellor.

OWLS.—First, J. Fielding, jun. Second, Countess of Derby, Knowsley Hall. Highly Commended, H. Yardley.

NUMS.—First, H. Yardley. Second, Rev. W. J. Mellor. Highly Commended, Messrs. S. & R. Ashton.

TURBOTS.—First, J. J. Wilson. Second, J. Percival. Highly Commended, F. Waite, Sparkbrook, Birmingham.

BABES.—First and Second, H. Yardley. Commended, F. Waite.

DRAGONS.—First, J. W. Edge. Second, T. Robson. Highly Commended, W. Baker; H. Yardley.

MASTERS.—First, J. Percival. Second, H. Yardley.

ANTWERPS.—First, Second, and Commended, H. Yardley.

ABCHANGELS.—First, H. Yardley. Second, J. Percival.

Mr. Edward Hewitt, of Birmingham, judged the poultry generally; and Mr. Bulpin, of Bridgewater, the Pigeons; but the whole of the classes for Game fowls were judged by these two gentlemen together.

LEEDS POULTRY SHOW.

THE following prizes were awarded at this Show, held on the 12th, 13th, and 14th inst.; but from want of space we must defer the report with which we have been furnished till next week.

SINGLE GAME COCK (Any variety).—First, W. Boyes, Beverley (Black Red). Second, E. Aykroyd, Bradford (Black Red). Third, J. Hodgson, Bradford (Brown Red). Highly Commended, J. Jackson, Bury; J. Mason, Worcester.

GAME (Black-breasted and other Red).—Cup and First, E. Aykroyd (Black Red). Second, R. Pashley, Worksop (Black Red). Third, J. Hodgson (Brown Red). *Chickens.*—First and Second, E. Aykroyd. Third, J. Hudson, Baldon Green, Shipley.

GAME (White and Piles).—First and Second, R. Butcher, Cresswell, Chesterfield. *Chickens.*—First and Second, R. Pashley. Third, R. Turner, Drighlington.

GAME (Any other variety).—First, W. Boyes, Beverley (Duckwing). Second, A. Briggs, Rawden, Leeds (Duckwing). Third, A. D. Edwards, Fixley Park, Huddersfield (Black). Highly Commended, W. Spencer, Haworth (Duckwing). *Chickens.*—First, J. Firth, Ellensgrove, Halifax (Duckwing). Second, T. Wilcock, Morley (Duckwing). Third, J. Ward, Adwalton (Duckwing).

DORKINGS (Any variety).—Dorking Cup and Mayor of Leeds' Cup for the Best Pen in the Show, H. Beldon. Second, J. White, Warley, Northallerton. Third, Mrs. Dale, Scarborough. *Chickens.*—First, A. Fenton, Rochdale. Second, J. White. Third, C. Traft, Green Hammerton. Highly Commended, M. Brooksbank, Manchester; E. Shaw, Fins Wilmet, Oswestry. Commended, W. H. Walker, Shenfield, Brentwood.

SPANISH.—Cup, H. Beldon. Second, E. Teesby, Fulwood, Preston. Third, J. Thrush, Bradford. *Chickens.*—First, H. Beldon. Second, J. Thrush. Third, W. Cannan, Bradford.

COCHIN-CHINA (Cinnamon and Buff).—Cup, A. Fenton. Second, R. White, Sheffield. Third, J. Nelson, Heaton Mersey, Manchester. *Chickens.*—First and Second, A. Fenton. Third, Col. S. Wortley, Grove End Road, London.

COCHIN-CHINA (Any other variety).—First, Second, and Third, A. Fenton. *Chickens.*—First and Third, A. Fenton. Second, J. Seiler, Dewbury.

HAMBURGERS (Gold-pencilled).—First, H. Beldon. Second, T. Wrigley, jun., Tong, Middleton, Manchester. Third, B. Smith, Northowram. *Chickens.*—First and Third, H. Beldon. Second, B. Bee, Georagah, near Preston. Highly Commended, W. & J. Barker, Allerton, near Shipley; W. E. Park, Abbot's Meadow, Mablees; J. Lancashire, Tongue Lane, Chadderton, Manchester.

HAMBURGERS (Silver-pencilled).—First and Second, H. Beldon. Third, J. Walker, Knarborough. *Chickens.*—Cup, H. Beldon. Second, H. Pickles, Warby, Skipton. Third, R. Longbottom, Bingley. Highly Commended, J. Walsh; H. Smith; H. Beldon; J. Walker; W. Cannan; J. Preston; W. Bartow; H. Pickles, jun.

HAMBURGERS (Gold-spangled).—First, H. Beldon. Second, J. Andrew, Water Houses, Ashton-under-Lyne. Third, G. B. Pritchard, Arnhem. *Chickens.*—First, H. Beldon. Second, J. Walker. Third, T. Hall, Denton Lane, Hollingwood.

HAMBURGERS (Silver-spangled).—First, H. Beldon. Second, W. Cannan. Third, J. Walker. *Chickens.*—First, H. Beldon. Second, J. Walker. Third, J. Jackson, Bury, Lancashire. Highly Commended, T. Robinson, Baldon; H. Pickles, jun.

HAMBURGERS (Black).—First, H. Beldon. Second, J. Hargreaves, Water Street, Skipton. Third, W. Cannan. *Chickens.*—First, H. Beldon. Second, J. Clegg, jun., High Crompton, near Oldham. Third, J. Jackson. Highly Commended, J. Fielding, Newchurch, near Manchester; W. Holt, Middleton, Manchester.

POLANDS.—First and Second, H. Beldon (Silver and Golden). Third, P. Unsworth. Highly Commended, E. Gannall, Leeds; H. Beldon (Silver). Commended, H. Carter, Holmfirth. *Chickens.*—First, H. Beldon (Silver). Second, E. Gannall (Golden). Third, P. Unsworth. Highly Commended, P. Unsworth.

FARMYARD CROSS (Or any other variety not previously classed).—First, H. Beldon. Second, Col. Stuart Wortley. Third, R. Loft, Woodmansey.

BANTAMS (Black).—First, S. Rhodes. Second, J. R. Jessop. Third, A. Briggs, Rawden, Leeds.

BANTAMS (White).—First, H. Beldon. Second, J. R. Jessop. Third, H. Draycott.

BANTAMS (Game).—Cup, Second, and Third, Master G. Croaland. Highly Commended, J. Elam; R. Allison, Leeds; J. Walker; E. Joynton.

BANTAMS (Any other variety).—First, H. Beldon. Second, S. & R. Ashton. Third, T. C. Harrison.

GUINIA FOWL.—First, H. Merkin, Driffield. Second, J. Walker. Third, T. C. Harrison.

TURKEYS.—First, E. Leech, Rochdale. Second, J. Walker. Third, H. Merkin. Highly Commended, Mrs. Dale, Scarborough; T. C. Harrison; H. Beldon.

GESE.—First, A. Fenton. Second, Rev. W. J. Mellor. Third, H. Saville.

DUCKS (Aylesbury).—First, E. Leech. Second, M. L. Rawson. Third, J. Bailey, Leeds.

DUCKS (Rouen).—First, A. Fenton. Second, E. Leech. Third, S. H. Stot, Rochdale.

DUCKS (Any other variety).—First, H. Saville. Second, J. Walker. Third, A. Fenton.

SELLING CLASS.—First, E. Gannall. Second, A. Rantford. Third, J. Hudson.

PIGEONS.

CARRIERS.—First and Second, F. Crossley, Eland, Halifax. Highly Commended, J. Firth, jun., Dewbury; F. Elce, Baywater, London. Commended, J. Hawley, Bingley.

POWERS.—Cup for the best pen of Pigeons, F. Crossley (Blue). Second,

W. R. Rose, Kettering. Highly Commended, Master G. Crosland, Wakefield; Commended, W. R. Rose; C. Cowburn, Cella, Leeds; R. Dodge, Sheffield; H. Brown, Sheffield.

TURKEYS (Amden).—First, F. Crossley. Second, C. Cowburn. Highly Commended, J. Fielding, jun., Rochdale. Commended, F. Elze.

TURKEYS (Any other variety).—First, J. Hawley, Bingley. Second, J. Percival, Oaklands, Harbourn, Birmingham. Highly Commended, C. Cowburn. Commended, J. Hawley.

MCOWLA.—First, F. Crossley. Second, E. Homan, Harwood. Highly Commended, J. Thompson, Bingley; J. Fielding, Rochdale; F. Elze. Commended, W. R. Park, Melrose; J. Fielding.

FARMYLA.—First, F. Elze. Second, W. R. Park. Highly Commended, J. Walker, Newark, Nottingham. Commended, F. Elze.

BARDS.—First, J. Bromley, Tonge Moor, near Bolton. Second, F. Crossley.

TURKEYS.—First, W. Hughes, Leeds. Second, R. Dodge, Sheffield. Highly Commended, Master G. Crosland, Thorne Lane, Wakefield. Commended, F. Elze.

JACOBINS.—First, J. Kidson, Busley Lawn, Leeds. Second, J. Thompson.

TRUMPETERS.—First, R. Dodge. Second, Messrs. Hatterley & Wilson, Thirsk. Highly Commended, J. Firth, jun.; E. Homan; F. Crossley.

NUNS.—First, W. R. Park. Second, J. Walker, Hays Park, Knarborough.

RUNTS.—First, H. Yardley, Birmingham. Second, S. Robson, Brotherton.

DRAGONS.—First, J. Percival, Peckham Rye. Second, H. Yardley. Highly Commended, C. Cowburn; H. Yardley; F. Key, Beverley; F. Crossley.

ANTWERPS.—First, J. Kidson, Leeds. Second, Master G. Crosland. Commended, J. R. Jessop; H. W. Illingworth, Idle, Leeds; J. Hawley; J. Kidson; H. Yardley.

MAGPIES.—First, J. R. Jessop, Hull. Second, H. Yardley. Commended, G. Crosland.

SWALLOWS.—First, J. Percival. Second, H. Yardley. Highly Commended, H. Yardley.

ANY OTHER VARIETY.—First, J. Hawley (Swiss). Second, J. R. Trennan, Helmsley, York (Black Spots). Highly Commended, J. R. Jessop; C. Cowburn (Archangels); H. Yardley (Blue Brunswicks).

RABBITS.

LONGEST-EARED.—First, W. Newsome, Leeds. Second, E. E. M. Boyds, Green Hill, Rochdale.

YELLOW AND WHITE.—First, W. Newsome. Second, T. Clarke, Sunderland.

TORTOISESHELL.—First, W. Newsome. Second, R. Dobson, York.

BLACK AND WHITE.—First, W. Newsome. Second, H. Cawood, Thorne, Doncaster.

SPLE-COLOURED.—First, W. Newsome. Second, J. Ward, jun., Doncaster.

GRAY AND WHITE.—First, A. Firth, Hyde, Cheshire. Second, F. Mossey, Leeds.

HAVIER.—First, J. Clarke, Leeds. Second, J. E. Gay, Doncaster.

JUDGES.—Poultry: J. Hindson, Esq., Liverpool; J. Douglas, Esq., Workson; E. Bond, Esq., Leeds. Pigeons and Rabbits: W. B. Tegetmeier, Esq., London.

DORKING POULTRY SHOW.

THIS Show was confined exclusively to the Dorking variety of fowls. It was held on the 13th inst., in a capacious marquee, erected in the square called Rose Hill, very near the Poultry Market, and, although there was heavy rain all the afternoon, there was a good attendance of visitors. About one hundred pens were entered for competition. In the two chief classes, open to all England, for which £10 cups were offered, poultry of a superior description was sent from several parts, and met with the warm approval of all present. The arrangements were well managed, and the Show may be considered a successful one. Mr. E. Butcher, the Secretary, was present all day, directing and assisting in the work. Mr. John Wood, assisted by three of the Committee, acted as Judge, and awarded the prizes as follows:—

DORKINGS (Coloured).—Open to all England.—Cup, Viscountess Holmesdale. Highly Commended, E. & A. Stanford. Commended, M. W. Fell. *Chickens*.—Cup, Duchess of Newcastle. Commended, Dr. Campbell, Brentwood.

LOCAL CLASSES.

DORKINGS (Coloured).—First, J. H. Ivimey. Second, M. Putney. Third, E. T. Bennet. *Chickens*.—First, J. H. Ivimey. Second, E. T. Bennet. Third, J. CHIT.

DORKINGS (Blue-speckled).—First, T. Wells. Second, Capt. Calvert. *Chickens*.—First, Miss Nicholson. Second, H. Mills.

DORKINGS (White).—First, T. Sherlock. Second, Messrs. J. & W. Attles. Highly Commended, Mrs. Forman; W. Wood. *Chickens*.—First, Lady M. Legge. Second and Commended, A. Way.

DUCKS (Any breed).—First, J. H. Ivimey. Second, W. Wood. Highly Commended, M. King.

GREEN.—First, W. Wood. Second, H. Wise. Highly Commended, W. Stevens.

TURKEYS.—First, A. K. Barclay. Second, M. Depear. Commended, M. Depear; H. Ellis.

DUBLIN POULTRY SHOW.

THE following prizes were awarded at the Royal Dublin Society's Christmas Show:—

DORKINGS (Silver Grey).—First and Second, Mrs. Warburton, Kill Naas. Third, Miss De Courcy Drevar, Rose Hill, Blackrock. Commended, T. W. Zurborst, Belville, Donnybrook. *Chickens*.—First and Second, Mrs. Warburton. Commended, R. F. Williams, Glasluna, Clontarf.

DORKINGS (Coloured).—First R. P. Williams. Second, Mrs. Warburton.

CHICKENS.—First, F. W. Zurborst. Second, R. W. Boyle, Bray. Commended, R. P. Williams.

SPANISH.—First, A. Comyns, jun., Ardara, Glengary, Kington. Second, S. Mowbray, Killeany, Mount. Third, O. McChintock, Hillmount, Randalstown. Commended, Miss De Courcy Drevar. *Chickens*.—First, R. P. Williams. Second, J. O. Cooper, Limerick. Commended, S. Mowbray.

BRAHMA POOTRA.—First, R. W. Boyle. Commended, R. P. Williams.

COCHIN-CHINA.—First, F. W. Zurborst. Second, R. P. Williams. Commended, Miss A. C. Alexander, Foynspass. *Chickens*.—First, F. W. Zurborst. Second, Miss A. S. Alexander. Commended, F. W. Zurborst.

GAME.—First, C. H. Peacocke, Carrick-na-greine, Dalkey. Second, R. Ouse, Kington. Commended, C. E. McChintock. *Chickens*.—First, Mrs. Melville, Drumcondra. Second, C. E. McChintock. Commended, R. Ouse.

HANSBROUGH (Spangled).—First, R. P. Williams. Commended, Miss De Courcy Drevar.

POLISH.—First, Miss De Courcy Drevar.

CREW COEUR.—First, J. C. Cooper.

SINGLE COCKS.

DORKING.—First, P. Hall, Old Conna Hill, Bray. Second, J. C. Cooper. Commended, S. Mowbray.

SPANISH.—First, A. Comyns, jun. Second, W. Perrin, Balfinshoe. Commended, W. Perrin.

COCHIN-CHINA.—First, A. Comyns, jun. Second, F. W. Zurborst. Commended, F. W. Zurborst.

BRAHMA POOTRA.—First, R. W. Boyle. Second, Mrs. Warburton. Commended, E. Wallace, Donnybrook.

TURKEYS.—First, R. W. Boyle. Second, F. W. Zurborst. Commended, A. Strahan, Timolin, Ballitore. *Poult.*—First, J. C. Cooper. Second, W. O. Hamilton, Ballitore. Commended, J. C. Cooper.

GREEN.—First and Third, J. C. Cooper. Second, Mrs. Warburton. Commended, Miss Walsh, Kingswood, Saggard.

DUCKS (Rouen).—First, Second, and Third, R. P. Williams. Commended, Miss Walsh, Kingswood, Saggard.

DUCKS (Aylesbury).—First, F. W. Zurborst. Second, Mrs. Warburton. Third, R. P. Williams. Highly Commended, S. Mowbray; W. Magrath, Bleanston.

JUDGES.—Dr. Haffield, Dr. Madden, and Mr. W. G. Merry.

YORKSHIRE SOCIETY'S POULTRY SHOW.

THE tenth annual Exhibition of this Society was held in the Cattle Market, York, on December 12th, 13th, and 14th. The following awards were made:—

DORKING (Any colour).—First, J. Kilvington, Alalaby, Pickering. Second, J. Bell, Thornton-le-Moor, Northallerton. Highly Commended, H. Beldon, Giffstock, Bingley; G. Hunter, Stillingfleet, York. *Chickens*.—First, Mrs. Ledgard, York. Second, J. White, Warley, Northallerton. Highly Commended, Gurnson & Jefferson, Whitehaven. Commended, H. Steward, Bishopthorpe, York.

SPANISH.—First, H. Beldon. Second, E. Brown, Sheffield. Highly Commended, J. Thresh, Bradford. *Chickens*.—First, E. Brown. Second, H. Beldon. Highly Commended, J. Thresh. Commended, G. Holmes, Driffield.

COCHIN-CHINA (Yellow or Buff).—First, W. Dawson, Hepton, Miffield. Second, H. Beldon. Highly Commended, S. H. Barker, Hovingham, Malton.

COCHIN-CHINA (Black or White).—First, W. Dawson. Second, G. Calvert, Dawlington.

COCHIN-CHINA (Grouse or Partridge).—First, H. Beldon. Second, The Ladies W. Fitzwilliam, Wellingborough.

COCHIN-CHINA (Any colour).—First, C. Pense, South End, Darlington. Second, G. Calvert. Highly Commended, H. Beldon. Commended, The Ladies W. Fitzwilliam; J. Bradcock, York.

GAME (Black-breasted or other Red).—First, J. Smith, Sedgwick, Grantham. Second, G. Derbyshire, Green Hammerton, York. Highly Commended, W. Boyes, Beverley. Commended, W. Bearpark, Ainstaby, Steeple, Northallerton; H. Beldon.

GAME (Duckwings).—First, J. Remison, Holmes-on-Spalding-Moor. Second, J. Mason, Hooker Hill, Boroughbridge.

GAME (Any other variety).—First, H. Beldon. Second, S. A. Thompson, Kirby Hall, York. *Chickens*.—First, H. Beldon. Second, H. M. Julian, Whitefriargate, Hull. Commended, T. Dyson, Halifax.

HANSBROUGH (Golden-pencilled).—First, T. Crookes, Owlerton, Sheffield. Second, H. Beldon. Third, H. Pickles, jun., Easby, Skipton. Commended, G. Holmes, Driffield.

HANSBROUGH (Silver-pencilled).—First, G. Holmes. Second, H. Beldon. Third, O. A. Young, Driffield.

HANSBROUGH (Golden-spangled).—First, H. Beldon. Second, G. Sutton, Bootham, York. Third, G. Holmes. Commended, H. Pickles, jun.; W. B. Richardson, York.

HANSBROUGH (Silver-spangled).—First and Third, H. Beldon. Second, Ashton & Booth, Ectonbottom, Cheshire.

POLISH (Gold or Silver-spangled).—First, Mrs. Proctor, Hull. Second, H. Beldon. Highly Commended, H. Beldon. Commended, A. O. Young, Beldin. (Any other variety).—First, Mrs. Proctor. Second, H. Beldon.

ANY FARMYARD OR OTHER CROSS.—First, O. A. Young. Second, J. Wells, West Huntington, York.

GAME BANTAMS (Any colour).—First, G. Holmes. Second, J. R. Robinson, Sunderland, Durham.

BANTAMS (Laced).—First, J. Walker, Halifax. Second, J. Thackray, York.

BANTAMS (Any other colour).—First, H. Beldon. Second, G. Milner, Bilton, Green Hammerton.

ANY FOWL BREED NOT PREVIOUSLY CLASSED.—First, J. G. Milner, Beldin, Leyburn (Houdan). Second, Capt. Ewen, York (Brahma).

TURKEYS.—First, O. G. Fairfax, Gilling, Ouse, York. Second, J. S. Tonge, York. *Poult.*—First and Second, G. S. Thompson, Moorlands, York.

GREEN.—First, G. Hunter. Second, Mrs. Ledgard.

DUCKS (Aylesbury).—First, M. Harrison, Warton, Pocklington. Second, O. A. Young.

DUCKS (Rouen).—First, H. Beldon. Second, Gurnson & Jefferson.

Turkeys were excellent. Lady Margaret Macdonald took first followed by a very meritorious pen shown by Mr. Depear. We can speak as highly of the *Geese*. Lady M. Macdonald was again first, and Mr. Cox second.

Ducks were a numerous and good class. Aylesbury, Rouen, and Buenos Ayrean were all well represented. Messrs. Burge, Cox, and Hilder took the prizes. All these were excellent pens.

An extra prize, offered for Brahma Pootras, was well deserved and gained by the Hon. Frances Scott. This was given by J. Pares, Esq., so well known for his successes in Light Brahmas.

Mr. Bailly was the Judge.

NATIONAL COLUMBARIAN SOCIETY'S SHOW.

THE ninth annual Exhibition of this Society was held in the Freemasons' Tavern, Great Queen Street, on the 13th inst. Upwards of seven hundred Pigeons, the property of the members, and comprising nearly every variety, were shown, and there was a large attendance of visitors, who expressed themselves much gratified by the Exhibition. Amongst the Carriers was Mr. Hedley's splendid Dun, which recently took the first prize at Birmingham, and which was sold during the day for twenty guineas. The Carriers from Messrs. Corker, Ord, and Elze were also much admired; and remarkably fine Duns and Blacks came from Mr. Faith. A collection of Antwerps, many of which had made very long flights, shown by Mr. Hudson, was also well worthy of note. Mr. Volkmar exhibited a splendid collection of Pouters; one of the White cocks measured 20½ inches in length. Those from Mr. Bacchus were also remarkably good. Mr. Ford and Mr. Jayne had some very fine Almond Tumblers; and birds of great excellence also came from Messrs. Wiltshire, Esden, Claydon, and others. Of Barbs, Mr. Jones and Mr. Hedley had birds of first-rate merit. Of Fantails, Jacobins, and Archangels very excellent specimens were contributed by Messrs. Elze, Morris, and Betty.

KEEPING POULTRY PROFITABLY.

I AM in possession of a house and an acre of land (freehold), with £30 per year income. I am prevented by defective eyesight from following any profession. I have hitherto been able to rub on without much difficulty, but high prices and an increasing family begin to tell, and I find I must increase my income by some means, and my hopes are centred on making the most of my acre of land.

The land is enclosed on three sides by a six-feet fence. By enclosing the fourth side with wire-netting, I propose turning my land into a poultry-yard—one acre in extent. I am told that fowls may, and are kept, at the rate of five to a rod of ground. At that rate my acre will accommodate eight hundred fowls. I propose to keep that number to produce eggs and fowls for market.

I now earnestly ask your candid opinion of my plan, begging you to remember that the person who asks is looking for some means of obtaining a living; help me with your experience and advice as to the best way of making the most of my land, a very light soil. I look at it in this light: if I can keep eight hundred fowls, and can make a clear profit of, say, 1s. per annum on each fowl, that will amount to £40 per annum. If I can make this of my land, with the £30 I already have, I should be contented. Now for the questions.

1st, Is my plan practicable? If so, can I accommodate so many as eight hundred fowls on an acre, and if not, how many?

2nd, Presuming the plan to be practicable, what breed or kind of fowl would you recommend? I am within six miles of a town of 13,000 inhabitants, and think egg-producing would pay in this neighbourhood better than fowl-rearing.

3rd, Could I clear the profit I mention? If not, what do you suppose? At the present time eggs are sold here at the rate of twelve for 1s., when cheapest they are sold at twenty for 1s.

4th, What should the eight hundred hens cost, and who could supply them?—J. JOHNSON.

[We sent your letter to an authority who has had some experience in poultry-keeping, and this is his trustworthy reply:—"I should not like to keep so many as eight hundred hens in so small a space, I fear they would soon sicken; better divide the space and grow corn and potatoes on one half to feed the fowls on the other. You may then in the following year reverse the plots, so as to have fresh ground for the fowls, while they will have well manured the other portion. A cock and ten hens of a good, large, hardy cross will produce a large number of chickens, if you can find a market for them when they are eight or ten weeks old. If you desire eggs procure two cocks and twenty-five or thirty hens of some good laying kind.

"If you understood the fancy varieties and could take some prizes at the leading shows, then fancy stock would pay well to

dispose of their eggs, but each variety must be kept separate. My conclusions are:—

"1st, I do not consider it practicable to keep eight hundred fowls in health on an acre of ground.

"2nd, For egg-producing I like White Dorkings. Others recommend Spanish, Hamburgs, and Polands, but there is always a difficulty in rearing these varieties, as they do not sit, are delicate, and are for a long time unproductive in winter when eggs are dearest. Except for about a week in November, my White Dorkings have not left me without eggs for three years. Cochins are good layers but most persistent sitters, which is very annoying when you do not want chickens.

"3rd, It will take much trouble and considerable experience to realise the profit you name.

"4th, The London salesmen could supply you with hens at from 1s. to 5s. each, but I must certainly advise you not to buy nearly so many.

"5th, I would rather recommend for market chickens, to buy six or seven large healthy Brahma hens and a Houdan cock. Save your pullets, and the year after breed from them and a Dorking cock. This plan will give you good, hardy, healthy chickens fit to be fattened for market at ten weeks old.

"Do not begin with too many, you will then be gaining experience at little risk. If twenty hens hatch ten chickens each four times a year, that will make eight hundred chickens. You will find if you have any success they will cost something to keep, and if you can grow their food it will not cost nearly so much. When you have gained some experience you will be better able to judge for yourself than any one else can instruct you.—B. P. B."]

NANTWICH POULTRY SHOW.

I ENCLOSE a prize list of the Nantwich Poultry Show for February, 1867, by which you will see that Mr. Edward Tudman's statement in your Journal of last week is totally unfounded. The silver cup presented by the Hon. Mrs. Sugden is given with the express understanding that the classes for a Buff-Cochin cockerel and pullet, and for Buff-Cochin pullets are open to the kingdom.—AN EXHIBITOR.

EVERY one must indeed sympathise with Mr. Edward Tudman, for his disappointment and annoyance in finding himself excluded from taking any more prizes at the Nantwich Poultry Show, after having done so "for so many years," particularly as he has never subscribed one shilling towards the funds of the Show; but before he again makes charges against a highly respectable Committee, it will be as well if he will read over the prize list, as he will then find that two of the classes for Buff Cochins are open to the kingdom, and until this year Cochins have been confined to a radius of thirteen miles, which will, perhaps, account for Mr. Tudman's always gaining the prizes until the Show in February last, when his Partridge Cochins were beaten by a splendid pen of Buff Cochins belonging to the Hon. Mrs. Sugden.—AN OLD SUBSCRIBER.

MANCHESTER POULTRY SHOW.—The relative entries for the Manchester Poultry Show, for three years are as follows:—

Year.	Poultry.	Pigeons.
1864	563	118
1865	1001	199
1866	1266	205

This year the Show commences on the 21st of December.

CUMBERLAND AND NORTH OF ENGLAND POULTRY SHOW.—The ninth annual Exhibition will take place in the Riding School, Whitehaven, on January 8th, 9th, and 10th. The prize money amounts to nearly £250. There are also twenty silver cups to be awarded, the highest being of the value of £8 8s., and the lowest £2 2s. The prizes in each class are £2 first, £1 second, and 10s. third. There are also fifteen classes for Pigeons, in which £1 is offered for the first prizes, and 10s. for the second, besides a two-guinea cup for the most successful exhibitor. Oage birds have six classes devoted to them, with two prizes in each.

This Society has been steadily increasing in favour year by year, and as the forthcoming Show will be held at a time when not many other exhibitions occur, we make no doubt the entries will be very numerous and the Show well worthy of a visit. The schedule announces the names of the Judges—Edward Hewitt, Esq.; Richard Teebay, Esq.; and W.B. Tegetmeier, Esq.

GAME FOWLS.

I HOLD that "A LANCASHIRE BREEDER OF GAME" is in error in saying that no one can lay down as a rule which sorts of Game are the best fighters and layers, as the best colours both for laying, and more especially for fighting, are well known to all good judges and breeders in every locality, and some parts of England have worse breeds than others, as is well known. That there are some good birds of each colour I readily admit, and so will every one. Game fowls are generally known as very prolific birds everywhere, I believe, though some of the sorts are less so, the Brown Reds being one of them. Game hens when young lay throughout the winter, and the older hens always lay early in the spring as a rule. They want to sit often, of course, as all hot birds will do, and their chickens being of a hotter nature stand cold best of all the breeds, but not damp. Yorkshire has plenty of good, large, white-legged, barn-door fowls such as I described, but Lancashire may have fewer of them. Many judges despise some of the breeds they judge and award prizes to, and I flatly deny that there is anything in the least narrow-minded in so doing. "A LANCASHIRE BREEDER" has a bad-laying stock of Game fowls, perhaps, and fancies, therefore, that all other Game fowls are bad layers. I must say I altogether disagree with him in most of his remarks.

I beg cordially to thank "CHANTICLEER" for his little compliment to my rough notes on Game Fowls.

I have known Game fowls well since eleven years old, in 1831, thirty-five years, and have bred Game Bantams from 1832 to 1856, or twenty-four years.—NEWMARKET.

STINGLESS BEES.

HAVING to go south I went round by Devonshire, and called on our valued friend the "DEVONSHIRE BEE-KEEPER," who received me very kindly, showed me over his apiary, and took the top off a hive of his Ligurians, lifting off and showing me every comb, with the bees and queen, without a single bee stinging or annoying us in the least, and without having anything on to protect us. May I not, therefore, say these bees are practically stingless? and are we not very much indebted to our Devonshire friend for introducing these beautiful and valuable bees into England, as well as for his numerous inventions in bee-culture, and his ever-ready kindness in giving any of the numerous readers of "our Journal" every information they may ask for?

I also saw our friend Mr. Bevan Fox's apiary, and his numerous and different kinds of hives, and he was so kind as to say which he had found most useful either for honey-gathering or increasing the number of stocks. Here I also saw the Egyptian bees, which appear, at a cursory view, very much like the Ligurians, but smaller and more waspish, and therefore inferior to them. I was much pleased with my visit, and am sure if any bee-keeper being near Exeter will call on our apian friends there, he will be as delighted with his visit, as I was.

I find from the weather being so open, and there being at the same time nothing for the bees to collect, they have consumed a very large portion of their winter's store. Most of those stocks that were sent to the moors are said to have come back, if anything worse than they were when they left, consequently nearly all require feeding.—A. W.

BEES DESERTING ONE OF NEIGHBOUR'S HIVES.

EARLY last year I purchased one of Neighbour's humane hives, being unwilling to destroy my bees. My first swarm was accordingly hived in the lower compartment, but in about fifteen minutes out they came again. I succeeded in again hiving them, but in the course of half an hour, and whilst I was still watching them, they made a fresh start, and this time I lost them altogether. I had another swarm the week following, which I hived in the same hive, but, to my dismay, they quitted it within an hour. I did not, however, lose these, for I put them in a common straw hive, in which they remained. This year I again tried to stock my unfortunate hive, but the swarm deserted it on the third day, and alighting on a neighbouring bush was put into a common hive, where it remained, and in which it has done well.

Can you tell me why the bees have so persistently refused to

remain in my new hive? I may mention that the top board is made of fir, and has a very strong smell.—A. W. B.

[Your concluding remark appears to afford a clue to the solution of the mystery, although we should have supposed that the obnoxious smell would have disappeared by the second season. We are, however, unable to suggest a more probable explanation.]

REGICIDE AMONG BEES.

I HAD a curious case of encasement last year. I had presented to me an Italian stock hive in the beginning of the month of August. To my great astonishment, in the latter part of autumn a young queen was seen emerging from the hive for the purpose of going to meet the drones. Those in the apiary had nearly all been extirpated, and in all probability she had not been rendered fertile.

One evening I noticed commotion among the bees, and on looking in saw that the queen was encased. She was enclosed in the centre of a dense cluster of bees; they were all lashed round her. This continued for a day or more. Eventually she was thrust out dead. My impression was that the hive would go to ruin, but, strange to say, the old Ligurian or Italian queen was still in the hive, but she was in an infirm state. I found her scarcely able to crawl; she was paralysed in four of her legs. She died in the course of the winter, and the hive would have gone to ruin had I not supplied it with another queen. The bees had, no doubt, perceived that their queen was becoming old and infirm, and unable to discharge her maternal duties. They, therefore, had reared a successor in the event of her demise; this was the young queen I saw taking an airing, but she not being fertilised was encased and ultimately destroyed. Had she become fertile I believe the bees would have despatched the old queen, and permitted the young one to reign in her stead.—J.

OUR LETTER BOX.

"STANDARD OF EXCELLENCE" (Peter).—You will see what is said about it in our columns to-day. We believe all the eggs laid by fowls at the Birmingham Show are broken by a man appointed to collect them. We have not heard any statement to the contrary.

INCUBATOR (Carlo Minasi).—Your letter is an advertisement, and if paid for, some portion of it might be inserted in the advertising columns.

BRABRA POOTRA COCKS AT BIRMINGHAM.—"In your observations on the Birmingham Poultry Show you say that the 'heaviest' Brahma cock weighed but 11½ lbs. I beg to assure you I exhibited two cocks, one weighing almost 14 lbs.—that is, over 13½ lbs., the other over 13½ lbs. They are still in my possession.—R. W. BOYLE, *Gaitrin House*."

WIREWORM IN FOWL'S EXCREMENTS (R. C. R.).—We have seen hard substances which have escaped a fowl's digestion, though rarely. If, anything organic could defy a fowl's gizzard it is a wireworm. You need have no apprehension of ill consequences, and, probably, will never again witness such an occurrence.

POULTRY JUDGES (An Old Exhibitor).—We are obliged by your letter, but we do not think it desirable to give the subject prominent publicity. We are surprised that any one pretending to the possession of common sense and to position in society could have written against three of our best poultry judges. We are glad that the Committees so written to have left the letter unnoticed.

DARK BRAHMAS (R. H., A Subscriber).—In buying your Brahmas be careful to buy both with pea-combs and without vulture hocks. The cock should have light hackles and saddle, dark or speckled breast. The hen should have striped hackles, and grey-pencilled plumage all over the body. The less of buff or white there is in the feather the better. Both should have yellow legs feathered with black.—B.

COMBS OF COCHIN-ORINAS (A. B.).—Your cock has that which is called a sprig-comb. It is not an indication of impurity, but it would be a disqualification in exhibiting, and it is by no means desirable in a brooding bird. The comb of a Cochin cock should be moderate, rather small than large, perfectly upright and smooth on both sides. If even the spikes are loose and incline to one side, it is a disqualification in close competition.

PRESERVING QUEEN ANNE'S POCKET MELON.—When the Melon is nearly ripe, make a small incision at one end, remove all the seeds, cover it with salt water, changing the latter every day for three days; then put it in clear spring water, changing the water twice a day for three days. Make a thin syrup, and boil it together with the Melons once daily for three days. Next make a thick syrup, adding the rind of one or more Lemons cut into strips, according to the number of Melons, the juice being squeezed in; then add some of the best white ginger with the outside cut off, so as to make the syrup taste strongly of the ginger. Boil, and when cold add to the Melon.—THOMAS TOOP, *Gardener, Great Bromley Lodge, Maningtree*. [Mr. Toop had more than seventy applications for the above recipe.]

HAIR-REMOVED CANARY (Goddess).—I fear your Canary is suffering from the richness of his diet. Do not let him have any mawseed for a time; sprinkle a little flowers of sulphur in his seed, and allow him the daily use of the bath and plenty of green food. If he hangs near the ceiling in a room well warmed or lighted with gas, it will be as well to remove him to a more healthy place.—B. P. B.

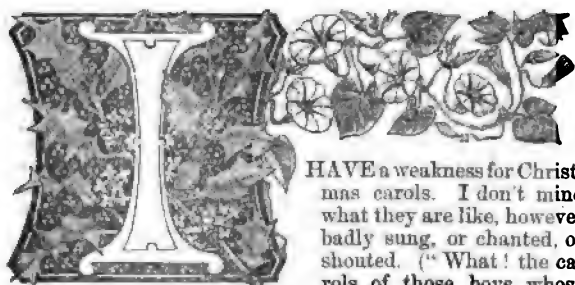
RATS (W. Golding).—To exclude them from your chickens whilst young they might be placed within an enclosure of small-meshed galvanic wire. To poison the rats put phosphorus pills into their runs.

WEEKLY CALENDAR.

Day of Month	Day of Week	DECEMBER 25—31, 1886.	Average Temperature near London.			Rain in last 30 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
25	TU	CHRISTMAS DAY.	Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	289
26	W	ST. STEPHEN.	43.8	29.0	36.1	9	8 at 8	58 at 8	58 at 8	16 at 10	18	0 19	290
27	TH	ST. JOHN THE EVANGELIST.	42.8	31.3	37.0	18	8 8	54 8	9 10	47 10	19	0 48	291
28	F	INNOCENTS.	43.7	29.5	36.1	14	8 8	54 8	17 11	14 11	20	1 18	292
29	S	HELIOtropes.	42.1	28.9	35.0	11	9 8	55 8	morn.	88 11	(	1 48	293
30	SUN	1 SUNDAY AFTER CHRISTMAS.	43.3	33.4	38.3	17	9 8	56 8	24 0	after.	22	2 17	294
31	M	LECHENAULTIA FORMOSA.	44.5	32.3	38.4	15	9 8	57 8	29 1	28 0	23	2 46	295
			44.3	33.8	38.7	18	9 8	58 8	32 2	54 0	24	3 15	296

From observations taken near London during the last thirty-nine years, the average day temperature of the week is 43.8°; and its night temperature 31.1°. The greatest heat was 58° on the 26th, 1897; and 26th, 1855; and the lowest cold 1° below zero, on the 26th, 1860. The greatest fall of rain was 0.62 inch. N.B.—The Calendar contains the names of plants flowering in the greenhouse.

A PROSE CHRISTMAS CAROL.



HAVE a weakness for Christmas carols. I don't mind what they are like, however badly sung, or chanted, or shouted. ("What! the carols of those boys whose

bellowing awoke my baby last night?" says little Mrs. Newmamma). I don't notice that supposed interruption in the least. I say I like Christmas carols. When a boy I used to be very fond of talking to old men, especially old soldiers or sailors—men who used to tell me about "Lord" Wellington; he was never the "Duke" of Wellington with them. Then there was an old Trafalgar man, a gardener's apprentice he was before he ran away and listed in the marines, and a jobbing gardener he was for many years after he had his discharge. He was aboard Nelson's ship in the great sea fight, and then, strange to say, he was also at St. Helena, and kept guard over Napoleon—"old Boney," he always called him. I loved to listen to this old man as he stood on a ladder pruning Pear and Plum trees—in his mouth a nail or two.

Then there was another old man whom I liked best of all—a good old man—with a bright blue eye and a rosy cheek, and neatly-chiselled features; a very clean old man, with a dainty-white smockfrock on Sundays, and he was much given to singing, both in church and out; his voice was cracked with age, but he sang still, and as Christmas came on he sang to me the carols which he and other boys of his day used to sing in the farmers' kitchens. They were poor poetry, terrible doggerel, but still I loved to hear him trill them out at the top of his weak, quavering, old voice.

I like to talk to old men now, but somehow they are not old enough, they don't date their stories far back enough; they don't talk about "Lord Wellington," and "old Boney." How is it old folks are so sadly modern now? Well, I will not answer my own question, as it reflects on my own age. I liked the old man's Christmas carol, as also that of some queerly-dressed little boys who came to my curate door in Sussex. And now, thanks to our refining national schools, we get good grammar, and good poetry, and good singing at our doors as Christmas comes on, though I don't quite like "Annie Laurie" to do duty for a Christmas carol.

Well, what shall my prose Christmas carol be about? Surely about "our Journal." I knew Christmas was coming ever since I heard that robin singing his carol. I wished there was a bone in his pretty throat, for we had the summer washed away from us, and no autumn worth speaking of, and then that robin must needs proclaim to us that winter was coming. Still, though sadly cheated this year of summer and autumn, one must own that Christmas always comes at the right time. New Year's-day does not,

the year ought to begin with the first green bud; it should be new when Nature is renewed, when all is new, when there are the tiny leaflets in the hedges,

"And when the tender grass is leading
Its earliest green along the lane."

I think it is horrible mockery to have to shout good wishes and "Happy New Year" in a thick great coat over a comforter in an east wind in a snowstorm at the risk of catching bronchitis. Why, the word "December"—tenth month—is a protest against the year beginning in January. At any rate, that good, kind angel Christmas, with hot dinners in his hand, and blankets under his arm for the poor, comes just when wanted; in midwinter, when there is little to cheer, he, the great cheerer, comes, and tells now, as ever, of peace and goodwill; of kindly feelings and pleasant gatherings round the fire—he tends to create and keep up kindness.

Great changes have been in the world since last Christmas. There is the Atlantic telegraph, and that, I hope, will do much to cause kindness. By the way, if there should be a telegraph to the moon, I would suggest that lunatics should only pay half-price.

Talking about Christmas tending to kindness and geniality, does not "our Journal" do so in its little way? I think it does—I hope it does. A few days ago I was at a large public dinner, and after the viands were gone, and the great speeches over, I thought I would look round and see if I could find any traces of "our Journal" present. There, sure enough, not far off, I saw two occasional writers, and several readers, though, perhaps, they did not know me, and a long way off, right across the hall, I saw a writer who did know "WILTSHIRE RECTOR," and I held up my glass; like magic it was responded to, and I venture to say not two glasses of wine in the room were drunk with better, kinder feelings, than our two. Nor was that all; a gentleman, owning one of the first and most honoured names in the gardening world, came up to me after dinner, and begged to make my acquaintance, because he knew me in the pages of "our Journal." Bless me! we shook hands like brothers, as indeed we were.

My Christmas carol must be about "our Journal." Gardening comes first. Man was placed in a garden when he was innocent, and some of his most innocent hours are spent in a garden now. As a profession it may not—yet remember Sir Joseph Paxton—be as encouraging to ambition as some others; yet good conduct, perseverance in duty, and constantly improving the mind, knowing more this year than last, cannot but place a man well sooner or later. Other callings have their disappointments. Keep cheerful hearts and manly faces. The world is like a mirror: look at it with a smile, it returns you a smile; look at it with a frown, and it frowns back upon you. Wherever there is not success equal to hope, yet the consciousness of having done your best will bring comfort. I would say, in the words of Eliza Cook,

"Work on, hope on, and be ye sure
Self-help is noble schooling;
You do your best, and leave the rest
To God Almighty's ruling."

I was very pleased to hear lately that in my county there is a strong desire to give to all labourers permanently working on a farm the addition of a good-sized garden to their present cottages. This is well; a garden is an ameliorator, it blesses him that cultivates, it gives not only a pleasant addition to a meal, but it gives pleasure in the cultivating to the cultivator. I like to see the hoe-handle worn smooth and polished; I like to see the spade bright as a looking-glass, both spade and hoe so worn by a cottager in his own garden. There is a charm about one's own; the little child says of its tiny garden, and says with delight, "It is my very own."

I am further glad to see that village horticultural shows are on the increase. The school is the right place for the exhibition, and as I know from being present, such gatherings are promoters of good. A harvest festival and horticultural show do nicely combined, the fruit of the garden and fruit of the field are ripe at the same time. At one such village show I noticed an old epitaph-looking card standing above a plate of Onions, its wording ran thus—

"THOMAS ORCHARD,
Underground."

I am glad to hear friend Thomas is above ground, and that his Onions only are under ground. I wish I could see a Grape Vine on every cottage—the Sweetwater will ripen seven years out of eight—there would then be a drop of wine to help to keep Christmas with. Do not smile at English-made wine; why, in olden days even in the fenny Isle of Ely thousands of gallons were made yearly.

Next, poultry. I am told the fowls did not look so well at Birmingham as in old days of a cock and two hens. Of course they did not. Gallant gentlemen always show to most advantage in the presence of ladies, and ladies look their best in the presence of gentlemen; dividing them is a mistake. How unhappy the ladies look inside the "ladies' carriage" on a railway! I hope our differences of opinion have been expressed courteously and kindly this year. I think they have; and though we have been at "NEWMARKET," there has been no jockeying. A friend of mine was at the same school with an American boy; my friend was a big fellow, and he chanced to pelt a stone or two at young Jonathan, who, given ever to tall talk, ran off to the master, exclaiming, "Sirre, Sirre, Smith, sen., has been hurling rocks at me." Now, our missiles have been but little pebbles, not rocks, let them now be only snowballs. (N.B.—Don't put a stone in the middle.)

By the way, let not that man who put that needle into the comb of the Hamburgh hen, bring his nose near my hand when I have a needle in it, that's all.

I have this year been on the watch for instances of pet love, and will record a few. I have been in a room where lay, propped by pillows, a great invalid, one for years a prisoner, yet cheerful and content. Doubtless, high principle was at the bottom of this; in a lower sense there was something else. Pets were around in the form of various finches. Each had its day for exercise, each had its name; the habits of each were watched with interest, and some were very tame. The pets added to, if they did not cause, the cheerful demeanour—they solaced the sick one.

I will give another instance. One of the saddest funerals I ever saw was that of an old labourer. He was very old, and he and his wife were a fond couple; but, alas! they had never had a child, and when he died only the wife followed. She had no son's arm to lean on; she walked after the husband of her youth, her middle life, her old age, quite alone. I have valued my children more than ever since that day. Well, my old friend, left quite alone, wanted something to love. A neighbour gave her a duckling, which, not being strong, fared ill with the rest. She was very fond of it, declared it knew her; she took it in her basket when she went out, declaring change of air did it good. One day the poor bird looked up and died. She has a hen for a pet now, and the motherly old Cochin and the old widow are great friends.

Yet another story of pet love. I saw in my village lane one summer afternoon a Bantam cock which was tethered. A travelling van was near, some kind of show, I fancy. I said to the woman, "Is that your bird?" "Yes, sir, and I put him out for a little air, and will you look at my chickens?" Taking down a cloth-covered hamper she displayed a young brood and the hen. The hen had laid, sat, and hatched in that hamper while the van was moving from place to place.

I would say to lovers of poultry, Mind you keep good birds, the keep of well-bred fowls costs no more than that of bad ones. Study this subject, it will interest you, and no longer

keep mongrels. I would say the same in regard to Pigeons. I like to visit at a house where pets are kept; there is then something to look at after breakfast, something to criticise and admire. If there be a well-kept garden also, there is, of course, a vast additional source of pleasure both to guest and host.

We write to instruct and gratify lovers of gardens and poultry, and some who love, yet have neither, read our pages. Nature plays odd tricks. I knew a London clerk, born lame, very lame, who rode to his office, sat there, and rode home again. Yet what was his hobby? Strange to say, it was cricket. He never held a bat at cricket, yet he delighted in books on cricket, and when he asked for a holiday it was to attend a cricket match. So I know ladies who love reading about gardens, although they have none; and, I doubt not, "our Journal" gives pleasure not only to those who have, but those who have not either garden, or poultry-yard, or pet. This periodical promotes geniality, I trust, and tends to keep up all the year the feeling we all have at Christmas.

There is a part of Kingsley's "Alton Locke," which I often think of. It is where Alton, when a boy, a London boy, describes himself listening in bed of a morning to the country wagons which brought in to the great city flowers, and fruit, and vegetables. He heard them come rumbling in before day-break, or soon after; and as he lay and listened, he wondered and wondered what sort of places those were from whence came the fruits and the flowers. So I often wonder and wonder where this Journal goes. I know where it comes from; I know the old London house in old Fleet Street, not far from Temple Bar. I know the room where the Editors sit, all unmindful of the roar of the traffic below them, their thoughts occupied with furnishing instruction for our readers. I know where some of the contributors live. I know a gardener's cottage, a very pretty one, which looks down, at least the great house near it looks down, as Horace Walpole said of it, "like the sentinel of Kent." I know a country surgeon's home whence issues many a poultry paper. I know, of course I do, my own quiet study with its view of church, and shrubbery, and Elms clasped by Ivy. I know whence come some of the contents of the Journal. But where do all the Numbers go? I know some cross the Channel to France, some another Channel to Ireland, some drop down among Welsh mountains, many reach Scotland, not a few remind of "the old country" exiles in far-off lands, and they are scattered all over England; but I should like to peep into the houses of the readers, see them break the covers, cut the leaves, and begin to read. I fancy I should see grave fathers with two chins, and round shiny bald heads, with gold eye-glasses held over pleasant eyes, who on Wednesday mornings put aside the *Times*, and politics; and learn about their much-loved Conifers; and comely matrons who read about flowers; and girls and boys who want to know more about their pets. Well, I like to fancy that these good people like us and our labours. I fancy that humble people though we be, yet we fulfil our little mission of making life pleasanter, making country homes brighter, and town homes less town-like. I forgive the "I"—shall be pleased if I can in any way imitate Christmas in promoting kindness and geniality.—WILTSHIRE RECTOR.

VINE BORDERS, AND HOW TO MAKE THEM.

My article under the above heading, in the Journal of the 16th of October, seems to have slightly disturbed the equanimity of three of your correspondents. One thinks me rather homeopathic in my mode of prescribing food for my Vines, another thinks my recommendations very complicated and expensive, and a third finds fault with the stratified system of making Vine borders, and expresses his astonishment in the following rather serious strain: "Allow me to ask Mr. Wills what benefit he expects to derive from having the bones and lime rubbish arranged in layers betwixt every 9 inches of soil, unless it is to coax the roots down to such awful depths. Would his object not be gained by just mixing them in the usual way? I do not think the stratified system is in accordance with sound practice, or any recognised theory."

I have quoted the letter of "J. S.," *Wortley, in extenso*, and I assure him that none of my articles are founded on theory, but are simply descriptive of what I practise. My thanks are due to him for asking this question. I am sorry I omitted giving my reason for arranging my Vine borders on the stratified system. In writing an article from memory one often finds many important matters left out after reading it carefully through.

Every one who has had little or much to do with the cultivation of the Vine, will have noticed how readily the Vine finds anything like loose lime rubbish within reach of its roots, and that the most healthy roots are always to be met with in that part of the border where lime rubbish has been liberally used. My object, then, in making the borders as described at page 290, is to arrest the leading roots at each layer in their downward progress through the border, and cause them to spread right and left along each layer of bones and lime rubbish. This they will speedily do, and will multiply their feeding roots a thousand-fold during their progress through the thin and open layer. As soon as they have permeated through each of these layers thousands of roots will descend through the next layer of soil, where they will find more solid food in which to become matured and established previous to reaching the next open layer. So they will continue to take firm hold of the border as they descend; and by the time the bottom layer is reached, the whole of the border will have become thoroughly filled with roots. The main roots of the Vines will be kept in a healthy state in the open layers of the border, and will be constantly sending out innumerable rootlets in search of food, which will be supplied to them in the shape of liquid manure after they have partly exhausted the food within their reach; and during their season of growth they will be copiously supplied with water in a clear state.

If "H. S." (page 421), can only realise his splendid expectations, he will be fortunate indeed, but there is a wide difference between expecting and having; and between now and next July his idol may be shattered, and his hope of cutting half a ton of Grapes from Vines that have only been planted one year, and been grown without any of the aids afforded by artificial heat, may be a long way from being realised. I fear the fancied large revenue to be derived therefrom will dwindle down to a very small amount. But this will not be the worst that may happen to "H. S.'s" Vines. My most serious advice to "H. S." is to forbear forcing his Vines this year or next, unless he is prepared to root them all out next year, and incur the expense of another £30 in making borders for a fresh set of Vines, besides about £20 worth of labour for growing these. I fear he may find out that his Vines are not perfectly ripe. He must not fancy because they have made such strong growths that they are perfectly ripe and fit for forcing at once. What I should do if I were "H. S." and had his Vines under my care, would be to keep the lights and ventilators open as much as possible until the middle of next April, when the Vines will begin breaking of their own accord. I should shorten them back about the end of January to about 5 feet, and should on no account allow them to bear any fruit next year, or if determined to fruit them, I should moderate my expectations to 90 lbs. weight of Grapes, instead of half a ton. The climate of Hounslow and Staines may be very favourable; but at those places, as at many others during the past season, the summer was not warm enough to bring Vines to a sufficient state of maturity to enable them to bear the severe ordeal of forcing at such an early period as this, unless they had been growing in houses where they would have had the benefit of artificial heat from hot-water pipes or flues.

Flags of all sizes are used for our Vine borders just as they come to hand. If they are small the pillars will want placing closer together, and where a flag is found to be too thin to bear the weight of soil that may be placed on it, a brick is set on end under the centre of it. Where there are plenty of flags to be had at no great distance from the gardens, it is only a question of labour in taking them out of the ground, and carting them to the gardens; and as for sods, there are thousands of broad acres to cut from. I assure "H. S." that I made no mistake in naming the quantity of bones I should use in each nine-inch layer of soil. "H. S." has forgotten the bones in the two-inch layer between the nine inch layers of soil; and for each nine-inch layer I use about three barrowfuls of lime rubbish, and one of charcoal, and about two pecks of bone. I trust "H. S." may deem this sufficiently explicit. I never advocate stable-manure for mixing in the main part of the Vine border. I only use a little, and this thoroughly decomposed, in the top layer in which the Vines are planted, just to encourage rapid root-action. I fear "H. S." has used too much of it in his borders, and that it will ultimately prove an evil rather than a benefit. Will "H. S." if he still persists in forcing his ninety Vines, give us a faithful statement of the results, the condition of the Vines after forcing, and the prospects for the future?

This word "future" reminds me that I have yet another

foe to meet, who takes shelter under the spreading branches of the Vine, and subscribes himself "VIRIS." Why not sign his real name? I dislike fighting an unknown antagonist. I am glad, however, to find that his visit to Bishop Stortford afforded him balm to soothe his despondency, and proved of so much pleasure to him. "VIRIS" says (speaking of my article), "I read it through carefully, and, I confess, felt thoroughly disheartened, for it seemed to me that no man of moderate means could grow Grapes if borders 3 to 5 feet deep must be made after the expensive directions given by Mr. Wills. On a second perusal I found that all his words referred to the future, 'to be or not to be,' according to circumstances. As far as I can foretell, I think he will reconsider some of his propositions, and simplify them." Then it struck "VIRIS" that he had read some account of some wonderful Vines (Happy thought!), so off he goes to the Great Eastern, and soon his doubts are removed, for Mr. Ward speedily relieves his overburdened mind by describing how the borders were made; his idea as to how a Vine border should be made is at once confirmed, and he hastens to cheer the disheartened readers of THE JOURNAL OF HORTICULTURE, whose senses had been shocked by my expensive propositions.

"VIRIS" gives a clear and straightforward account of what he saw and learnt in the Bishop Stortford vineries. There is another part of his letter, however, that I must quote. He says, "All that is required is to make the front and back walls of a height sufficient to allow of a border being made 3 feet deep the whole width of the house; and this, in a house 14 or 16 feet wide, would be amply sufficient for Vines for many, many years, and with annual surface-dressings, probably as long as a vinery would last [?] This method of making Vine borders offers such a contrast to the complicated recommendations of Mr. Wills as to merit notice, for simplicity in all gardening operations should be a leading feature." A little further on he says, "On inquiring of Mr. Ward, Mr. Miller's intelligent gardener, I learnt that the border of the span-roofed house, 200 feet long and 30 feet wide, was thoroughly watered at the end of March of the present year, and the same once a-month till the middle of August." How would "VIRIS" manage if his supply of liquid food were only comatable once a-month? "No water has been given since, neither will any be given till next spring."

I should certainly feel very much surprised if I saw any article by Mr. Thomson, or any other gardener endowed with a moderate store of common sense, advocating such a barbarous system of Vine culture as this; and I cannot but think—indeed, I feel sure, that the Vines at Bishop Stortford will show next season that the once-a-month system of watering during their season of growth, and their being so long kept without any, is highly injurious to them. I should consider this the greatest objection to an inside border. "VIRIS" is almost inclined to say, "The climate is the maker of the soil;" therefore the whole of a Vine border, whether for a lean-to or span-roofed house, should be inside, and not more than 3 feet deep, trusting rather to surface-dressings than to deep, dank, five-foot borders for the proper food of Vines. "VIRIS" should see the Vine borders at Garston. This would dispel his curious notions of climate making the soil 3 feet deep in inside borders, and I hope to convey a clear account of some of the Garston Vine borders to "VIRIS" and other readers of the Journal shortly.

Does "VIRIS" think Mr. Meredith would make outside and deep Vine borders, when a great portion of his living depends on the result, if he thought the Vines would not succeed in them? Mr. Meredith has to pay for all the sods he obtains for his future Vine borders. Some idea may be formed of the magnitude of these, when I state that the outside borders which he intends adding to the vineries already built, where the Vines have been confined inside for three years, will cost £500; but what will be the result when, after the roots of these magnificent Vines have been confined within the walls of the vineries for three or four years, the loose bricks are taken away from between the pillars, and a well-made border is placed outside the walls? Why, it will be this: each Vine will be like a giant refreshed; the roots will quickly pass into the outside border and take firm hold of it just as the young Vines have established themselves, and are wanting extra nourishment to enable them to bear immense bunches of splendidly coloured berries. There is at Huntrope an old Vine which was planted nearly a hundred years ago; this is planted outside. Its branches were growing in what, when I came here, was an old Pine-stove. Last year it made a shoot upwards of 70 feet long, and this year I have cut from it about thirty fine bunches of

Grapes, averaging 2 lbs. each. How long does "Vitis" think an inside border, 3 feet deep, would have supplied food enough for a Vine like this?

I therefore maintain, that to make a permanent Vine border the directions given at pages 289 and 290 are correct, and in accordance with sound practice; for whether it is easier to make one good, lasting border, or to be at the trouble and expense of making a fresh border every seven or ten years, besides the great disadvantage of keeping one's employer's table badly supplied with Grapes for a year or two after each renovation? The expense is not so great to gentlemen, for there is generally a piece of land from which the sods can be cut, and there is usually plenty of soil that can be spared from the precincts of a garden for spreading over the ground where the sods have been taken from. This being done, a few pecks of grass seeds soon make all right there. Bones cost about £10 10s. a ton, and one or two tons will go a long way; as for lime rubbish, this is generally found in quantities at most places, and charcoal can easily be made on the spot. In cases where the whole of the material has to be bought, a visit to Garston* will satisfy the most confirmed grumbler that it will pay to make Vine borders permanently and properly, and that a thing once well done is always done.—J. WILLS.

"HONEST AS TRUTH ITSELF."

[That should be the motto of every nurseryman's catalogue, and it should contain no statement not founded on experience. If it is not so characterised the issuer will lose many such desirable customers as he who wrote to us the following.—EDS.]

EXPERIENCE seems to have taught some of your correspondents that the descriptions given by French Rose-growers of their new or untried productions are not strictly to be relied on. I have small sympathy with dealers of any kind who try to pass off rubbish for treasure; but if excuse is to be found for any of the class, it is for the raisers of new varieties, whose parental partiality unfits them for criticising fairly the merits of their own seedlings. No such excuse can be made for the mere growers of well-known plants; yet their catalogues often so describe these plants, that purchasers unacquainted with them are induced to become their possessors, and to place them in positions for which they are totally unfitted, and in which they eventually die.

I have before me the catalogue of a leading nurseryman in the midland counties—one who I know from experience is very particular in supplying good stuff to his customers, and I find he states that *Larix Kämpferi* is a noble tree, of great commercial value, and is quite hardy; that *Sciadopitys verticillata* grows from 100 to 150 feet high, and has already proved itself perfectly hardy; that *Mahonia japonica* and *Mahonia intermedia* are proved to be the hardiest of all plants.

Now, sir, I believe these two *Mahonias* are tolerably hardy in many parts of Britain; that they are not, however, what they are described to be I venture to assert, since, while many evergreens and shrubs grow luxuriantly here, these *Berberis* are half killed without fail every winter. But what do you say to *Larix Kämpferi* towering up in these islands of ours to a size that shall be of great commercial value? or *Sciadopitys verticillata* exceeding the height of our largest forest trees? Is there not some stretch of imagination here? Or is the word "hardy" used with reference to the native country of the plant described, and not with reference to the country into which the trees have been imported? I have purchased so many plants described as hardy, which have perished in the winter's frosts, that I should feel grateful to you if you would impress upon nurserymen the great advantage of being strictly honest in describing their plants. I do not mean to blame all indiscriminately, but I do say the vice is not uncommon; and nothing is so exasperating to any one commencing to plant, as to find that half the nice things that cost so much money are dead, although they were sold as "perfectly hardy."—MONTICOLA.

LARGE WELLINGTONIA GIGANTEA.—I send the dimensions of one that is in the arboretum here, and which has a very exposed aspect, receiving the full force of the south west wind. The arboretum slopes gently to the south, and the subsoil is clay and sand. The height of the *Wellingtonia* is 24 feet; its

circumference of stem at 3 inches from the ground, 5 feet 2 inches. It is beautifully clothed with branches from the top to the bottom.

We have also a large *Juniperus recurva*; but in July and August it turned very brown. Is it a tree subject to the attacks of red spider? if so, how could this be destroyed? or is it a characteristic of the *Junipers* to turn brown during those months?—J. SHARP, Gardener to A. Barton, Esq., Bishopsleke, Hants.

ADVANTAGE OF PLANTING EARLY WHOLE POTATOES.

ABOUT twenty-four years ago I planted several rows of the same variety of Potatoes, some with small cut sets, some with large cut sets, others with small and large whole Potatoes. When dug it was ascertained that the largest whole sets yielded the weightiest crop, and the small cut sets the lightest. Since that time I have been in favour of planting large whole Potatoes, notwithstanding the large proportion of unsaleable Potatoes generally produced by planting them. Perhaps this is one of the reasons that cut sets are generally resorted to by the great majority of farmers and others. With the view of improving the quality and increasing the quantity of those raised from large whole sets, about seven years ago I caused all the stems, except the best one, to be pulled from each of the sets while the Potatoes were being hoed, and in this I succeeded far beyond my expectations. From a series of trials I have found that it is most unwise and unprofitable to plant cut Potatoes of any kind, and more especially those of the early sorts, which are frequently disbudded twice, and sometimes thrice before being planted, consequently the sets are so much drained and weakened by the cutting and disbudding, that many of them perish from exhaustion or dry rot, and those that grow are generally weak and unproductive. Besides, cut Potatoes, although not destroyed by disbudding, are frequently damaged with dry rot when planted in drills that have been much exposed to the sun, owing to the sap of the Potatoes being absorbed by the dry material in which they are planted: hence the propriety of planting whole Potatoes to avoid the risk of being so damaged. Early Potatoes would be much more productive than they usually are if proper means were taken to prevent them from sprouting before they are planted. This may be accomplished by storing them in cold cellars, or in dry ground, sufficiently deep to exclude the heat of the sun from them, or in an out-house, where they must be frequently turned to prevent them from sprouting.

I have long been impressed with the idea that good results would follow from autumn planting, especially in the case of early Potatoes in dry ground, where the tubers would remain fresh and without budding until the soil became more or less heated. If they are planted 5 or 6 inches deep they will not be injured by frost although they should be frozen; the frost would leave the Potatoes undamaged at the same time that it leaves the ground, provided that they are excluded from the sun and air. They will, however, not be so early as those of the same variety taken carefully from a pit or other Potato-store, with sprouts on them, and planted about the beginning of April. Some persons may doubt this; but they have only to make one fair trial to be convinced of the truth of this assertion.

On the 20th of April of this year I resolved to ascertain by a fair trial the difference between planting cut sets and whole sets. The Potatoes used in the trial were Smith's Earliest, which had been left in the ground during the winter, having been missed by the digger, consequently they were fresh and in good condition; from these I selected seventy-two sets, twenty-four of them being cut sets, weighing 1½ lbs., twenty-four small whole sets, weighing 2 lbs., and twenty-four large whole sets, weighing 5 lbs. The whole were planted at the same time and on the same ground, and grown with the same quantity and strength of liquid manure. The cut sets were planted in two drills, 10 feet long by 2 wide, and 10 inches apart. The small whole and large sets were planted respectively in two drills adjoining each other, of the same dimensions in every respect as those referred to, and of course the large whole sets, as well as the small whole sets, were set only 10 inches apart, the same distance as the cuts. It will thus be observed that twenty-four of either of the sets only occupied 40 square feet of ground. During the time of hoeing all the shaws were pulled away from each of the whole sets, except one, and that one had ample room to grow; indeed, I am convinced that if they had been planted 2 or 3 inches wider

* In my description of Mr. Meredith's large house, page 408, 1st column, 14th line, read, "There are two flank walks, 8 feet wide."

the crop would not have been so good, either in quality or quantity.

There is little or no danger of damaging the crop in the removing of the superfluous shaws, and the cost will not exceed in any district of this country 6s. per imperial acre.

The Potatoes were dug up on the 6th of August last. The produce of the cut sets weighed 15 lbs., of the small whole sets 28 lbs., and of the large whole sets 81 lbs., each of the lots being raised on 40 square feet of ground. At the same rates an acre would produce from the cut sets seventy-two bags (or 1152 stones), from the small whole sets 111 bags, and from the large whole sets 150 bags. The proportion of cut seed required to plant an acre is six bags, of the small whole Potatoes nearly ten bags, and of the large whole Potatoes twenty-four bags. The same variety of Potatoes planted was sold this year by retail at 8s. per stone. At this rate the cost would be (per acre) for the cut seed, £14 8s.; of the small whole seed, £28; and of the large whole seed, £57 12s.

Supposing the produce of the different sets to be sold at the same price per acre, they would realise respectively £172 16s. £266 8s., and £360. It will thus be seen that after deducting the extra price of the seed, labour, and per-centage thereon from the latter sums, a handsome balance will be left in favour of the whole sets.

It has been often asserted by persons who are looked upon as good authorities that the only way to avert the disease is to plant no Potatoes but those that are ready for storing in July. Upon this plan I have acted for the last sixteen years, and during that time I have not lost one Potato by the disease until last year, when I met with a considerable loss, owing to having been too long in digging them up.

The Potato best suited in my opinion to avert the disease, and to remunerate the grower is Smith's Early, frequently called "Smith's Curly," probably from its producing long narrow curly leaves similar to those of the Ash-leaf Kidney. It resists spring frosts better than any other variety known to me, and produces a large quantity of Peach-coloured bloom about the beginning of June, a thing not common to early Potatoes. It is, however, the earliest Potato that I know of, being round in form and of a large size.

Some parties in this district, however, have not succeeded so well as could be desired in the growing of this Potato, having cut their sets after the sprouts had been once or twice broken off them; therefore, nothing but a poor blanky crop could be expected. If growers treat them in the way recommended they will be amply rewarded.—JAMES DOBBIE, *Renfrew*.

ORCHARD-HOUSE ON A SITE WITHOUT SUN IN WINTER.

Mr garden slopes to the south, but almost at the bottom of it rises a hill very abruptly to the height of 300 or 400 feet, so that at this season the sun at midday barely touches the wall farthest away from the hill. All the remaining part of the garden is without sun, and will be so till February or March. Do you consider it very disadvantageous for an orchard-house without artificial heat, or a heated vinery to be erected in such a garden? and do you think that the inconvenience of having such buildings at some hundreds of yards from the gardens and gardener's dwelling, would be compensated by having more of the winter sun? We have here (south-west coast of Ireland), very little frost but much rain, the fall ranging between 60 and 76 inches in the year.—K. K.

[If you could do nothing else, we would not hesitate to place an orchard-house or a late vinery against the wall, which the sun now barely touches at midday, but which will receive more sun as the days lengthen; but having a position some hundreds of yards from the gardener's dwelling, where you could command the winter's sun, we would much prefer that for general purposes.]

LISTS OF SPRING-FLOWERING PLANTS.

I BELIEVE many of your readers are interested in winter and spring-flowering plants, and I wish, with your permission, to propose a plan by which we may obtain a good and complete list of them. A few years ago I sent you a list, which you published, but I could now send you a far fuller and more accurate one.

I would ask those of your readers who feel an interest in this class of plants to put down on the 1st of January the names of all plants then in flower, and from that date to the end of

March (or April) to mark each flower as it comes out, and to send the lists to you either at the end of each month or at the end of the spring. I hope that you will give the lists a place in your columns.

I will add that, to make such lists really useful, it will be necessary to observe three points—to put down every flower as it comes out, whether ornamental or not; to put down the date when first seen in flower; and for each writer to give his address, as many flowers are truly spring flowers in some parts, which are summer flowers in others.

The specific name and not the generic only should be given. In the Narcissi, for instance, some species flower in February, or even earlier, and some are as late as May.—H. N. E., *Bitton Vicarage*.

[We will readily devote the necessary space not only for lists of plants flowering in the spring, but of those flowering in each of the twelve months. We shall be obliged by our readers—the more, the more useful—sending us a list of the flowers and the dates of their appearing in each neighbourhood. The list should be sent at the close of each month, and in this form:

Name.	Date of flowering.	Place.
Snowdrop.....	January 5	Teignmouth.

—Eds.]

VINE BORDERS.

I READ in the Journal of the 11th inst., page 449: "When borders are outside it is much against the Vines when these borders are soaked with cold rains; and it is very unfavourable to the keeping of late Grapes when the whole system of the Vines is charged with moisture." Again, Mr. Fish says in the next paragraph but one: "All houses intended for early forcing, with borders outside, should have these borders securely protected from the changes of our climate."

Since reading the account, page 420, of how Mr. Miller, an amateur gardener at Bishop Stortford, has formed his Vine borders, I have looked through the books—from Mr. Pearson's little one, in which he recommends green turf, which from many soils would make the worst possible Vine border, to Thompson's big one ("The Gardener's Assistant," a capital book)—and in no book or periodical can I find any method of making raised Vine borders like those at Mr. Miller's, so as to occupy the whole area of the inside of the house. No method, in my opinion, so sound and common-sense-like has ever been broached, reminding one of the great revolution in Vine culture brought on by Crawshaw, when he, a brewer in Norfolk, originated or practised successfully the spur system of pruning Vines. It is curious that to amateurs in science we are often indebted for great advances. It is, however, very probable that inside raised borders, having no communication with the outside, are in existence. Let us hope that, if so, some one will tell us, through your columns; the method of making them seems so simple.

In page 450 Mr. Fish seems to think that such borders have been recommended, but would not do for the amateur, who is in the habit of making his vinery a greenhouse summer and winter. No amateur with a grain of gardening sense would keep his greenhouse plants under the shade of Vines in summer. He may grow a few summer annuals, but not enough to give much "splashing and dropping." The truth is, raised inside borders will be one of the great blessings of the age to amateur Grape-growers, who often, as I have seen, have their little vineries neatly paved inside, and a hideous mound "dressed" with manure outside, probably in or near to their flower garden, calling forth daily an apology from the educated amateur gardener as to the necessity of giving food, however disagreeable, to his Vines to make them bear fine fruit. Out upon such ways! Let every lover of Vine culture imitate and improve upon Mr. Miller's system of border-making, so that the vinery may be in the centre of the flower garden without disfiguring it. How slow we gardeners are. If this had been an improved method of cotton-spinning instead of Vine-border-making, it would have been in a few years spread over the whole world, and have made two or three Arkwrightean fortunes; but because it is the gardening invention of a clever man of business, it will be long mumbled about before it is swallowed.—FORWARDS.

THE ROYAL ASHLEAF KIDNEY POTATO.—Allow me as a favour to ask your correspondents not to place my name to this excellent sort. It was raised from seed by the late James

Ashwin, Esq., of Bretforton Hall, near Evesham, as I published in the circular sent with it when it was first distributed. I should have placed his name to it had he been alive at the time, so as to have given me permission to do so.—THOS. RIVERS.

STRAWBERRIES FOR THE MARKET.

I AM rather pleased to observe that your correspondents "J. T. AND OTHERS" have thought fit to differ from Mr. Radclyffe respecting his selection of Strawberries for profit. That Mr. Radclyffe is a first-rate Strawberry judge I have no doubt—that is, as regards flavour, &c.; but I think that he does not fully understand which varieties will turn the most money into the market gardener's pocket. Now, I consider that the men who have to grow them, and have to make their living from the sale of their produce at the market—these men, I think, are best able to impart information to their brethren in the trade; and I find that those who attend the market for the sale of this fruit give it as their opinion that there is not one buyer in twenty who will not always choose the largest and best-looking fruit, and that of flavour very little notice is taken. Such being the case, is it not quite possible that the varieties which Mr. Radclyffe rejects on account of being a little inferior in flavour, may be the most profitable to the market gardener? Therefore let market gardeners from various parts of the country come forward and state what sorts they have found to be the most remunerative, and how they cultivate them. By so doing I am confident they would confer a great benefit upon their brother gardeners.

Thanks to "J. T. AND OTHERS" for the very valuable information given at page 443. My thanks are also due to Mr. Radclyffe for the information which he has afforded us about Captain Cook Strawberry; he allows it to be "hardy, and a great cropper," just what a market gardener wants; surely, then, he ought not to condemn it as a market-garden sort because it is not good enough in flavour to be worthy of a place in his garden; and from the very flattering accounts that I have heard of it from a market gardener, I am still inclined to think that it will prove far more profitable to the market gardener than some of those which Mr. Radclyffe names in his list of eight. If Mr. Radclyffe wishes growers for sale to be possessed of a collection of the best-flavoured varieties, why does he not include Alice Nicholson in his list? for, as regards flavour, I have good reason to believe that this variety is equal, if not superior, to anything that has hitherto been sent out. Mr. Dean, writing to a contemporary, speaks thus of it:—"Fruit conical, flesh yellowish, solid, and luscious, size medium, with a very fine pine and Hautbois flavour;" and adds, "I regard this as one of the finest Strawberries in the world;" and such is the opinion of many others, but notwithstanding this, I should not recommend it as likely to become one of the most profitable kinds for market garden purposes.

For the information of market gardeners generally, I will, in conclusion, give a descriptive list of a dozen varieties, all of which I consider most profitable market-garden sorts. These are—

British Queen.—Of universally acknowledged excellence in soils which suit it. Too well known to need description.

Captain Cook.—Mr. J. Powell speaks of this as follows:—"The fruit is of middle size, roundish figure, pale red colour, with a darker tinge on the exposed side of the berry; flesh pinkish white, spongy, and rather deficient in juice, but when well ripened it has a peculiar musky flavour, not unlike that of the Hautbois, and ripens at the first season. The plants are hardy, and enormously productive, which will doubtless make it a profitable Strawberry for the market gardener."

Cornucopia.—This resembles Filbert Pine. A very beautiful cone or heart-shaped fruit, above the middle size, red throughout. Very hardy, and an abundant bearer: therefore excellent for the market and preserving.

Comte de Zans.—The best Strawberry for a general crop, and for market gardeners and cottagers. It is the most wonderful Strawberry I have ever seen, and I have had much to do with Strawberry culture. The plant is tolerably hardy; fruit conical, but often wedge-shaped, fair in flavour; travels well, and late fruit comes to a large size. This I consider the best Strawberry for those who grow large quantities for sale.

Empress Eugénie.—Very large fruit, and sweet; colour red throughout. A first-rate sort; in fact, I prefer this to Sir Harry.

Frogmore Late Pine.—This I can strongly recommend as a

late sort. Fruit large, conical, or wedge-shaped, of a dark red colour when thoroughly ripe, juicy, solid, and has a very agreeable flavour; travels well, and continues in bearing for a long time. It does not, however, succeed well in every situation.

La Constante.—The fruit is always regular and beautiful in shape, large, and firm. It is first-rate in flavour even when wet, a most desirable property. This variety ought to be in every collection.

Marguerite.—This is a really good sort, and worthy of extensive cultivation. The fruit is very large, of a fine long cone shape, and of a beautiful red colour; flavour good. A most abundant cropper. Plant remarkably hardy and vigorous.

Myatt's Eleanor.—This is well known as a very large late kind. Rather acid, but nevertheless an excellent late sort.

Patrick's Seedling.—This is a most excellent and useful variety, and can be safely recommended. The fruit is large, very even and handsome, well flavoured, and the plant a most abundant bearer.

Sir Joseph Paxton.—The fruit is very regular, large and handsome, and of a beautiful colour. I look upon this as one of the very best early sorts that have been sent out.

Wonderful.—This is first-rate for dessert, very good in flavour, beautiful in colour, a great cropper, and altogether a first-class variety.

If the above twelve sorts will not do well in the same place, I feel sure that at least eight of them will, that being the number Mr. Radclyffe recommends.—ECHLA.

I HAVE read over the communication of "J. T. AND OTHERS" on market Strawberries. I know well all the sorts named except Princess of Wales. I am glad we agree upon the Frogmore Late Pine, and I think Alice Maude a good selection. The reason I did not put it in the place of *Eclipse* was, I was not sure of its bearing carriage. I am surprised at what is said of Rivers's *Eliza*; it is always early with me, and bears a great crop of medium-sized fruit. I gave it to Mr. Knox, formerly with the Duke of Northumberland, at Alnwick, and now gardener to Mr. Farquharson, of Langton. He said to me, when I visited the garden this year, "Come and see my plants of *Eliza*; there is nothing here so good as *Eliza*. What a crop I have had! She has beaten them all!" There is no accounting for tastes, and circumstances differ much.

Let me now say a word about the others named by "J. T." Princess Frederick William (Niven), was sent to me by Mr. Nicholson, together with *Wonderful*, *Scarlet Pine*, *Captain Cook*, *Ajax*, *Ambrosia*, *Duc de Malakoff*, *Sir C. Napier*, the true *Sir Harry*, *Nannette*, *Ne Plus Ultra*, and a seedling with polished leaves (unnamed), raised from *Fragaria lucida* and the *British Queen*. I believe this to be the same as that which now stands in some catalogues as *Lucida Perfecta*, but I am not sure. They all had a year's grace, but the summer when I tasted them was wet and unfavourable for flavour. Princess Frederick William did not crop well, though a very fine plant; neither was its flavour more than medium. *Sir C. Napier* produced heavily, was very handsome, but more acid than either *Elton* or *Eleanor*. Mr. Rivers told me this spring that a friend of his near London lost two acres of it. My impression is it would not stand a severe winter. *Kitley's Goliath* is a fitful cropper in some soils. It is not a good cropper as a plantlet, but when established it crops well for two or three years, and is a good market sort. The flavour is good, the flesh is firm, but the end of its obtuse cone does not colour well. That is the one fault of *Wonderful*, which is long-coned. As there are two *Sir Harrys* I cannot tell to which "J. T." refers. The true *Sir Harry* did not do at all well with me, but the false *Sir Harry*, *alias* Hooper's Seedling, was a prodigious bearer. The leaves and fruit were much like those of Keens' Seedling. As to *Myatt's Eliza*, it is pronounced by Dr. Hogg to be the same as *Rival Queen* and *Omar Pacha*. If this is so, the *Rival Queen*, though rich, handsome, and first-rate, is a bad setter. I had it of Mr. Tiley, and in four years I had one heavy and charming crop, and the other three years it set its blossoms badly, and such fruit as were produced were malformed, and cancerous-nosed! The plant was very hardy, and I was sorry to give it up. I retain the *Scarlet Pine*, which is much in its line as to plant, fruit, and flavour, but a more sure setter, and not subject to malformations. As regards *Carolina Superba*, too much cannot be said in its praise as a fruit; but it will not crop unless it is in very fine land indeed. If the above do well with "J. T. AND OTHERS" I do not wish to put him or them out of conceit with them. "Well is it that well does!" Let me, to please him, amend my own

bill. *Early*: Sir J. Paxton, Marguerite, Alice Maude. *Mid-season*: Empress Eugénie. *Late*: Wonderful, Cockcomb, Dr. Hogg, and Frogmore Late Pine. Marguerite is very troublesome under crop with its runners. The same may be said of Sanspareil.

With regard to the double-cropper referred to by Mr. Bréhan, I know nothing of it. Except the Alpines, I do not think that a double-cropper would answer in this climate without the aid of ridge-vinery glass to ripen the second crop. It might succeed in France, or in the south of the Channel Islands. I still retain my high opinion of Rivers's Eliza and Eolipse, but have no objection to replace them for market purposes with Marguerite and Alice Maude, the latter a very good Strawberry for every garden, and a capital forcer.—W. F. RADCLIFFE, *Okeford Fitzpaine*.

PREMIER POTATO.

I HAVE been asked to offer a few remarks on, and to give the history and origin of the above-named Potato, a seedling of great merit.

I ought first to state that this valuable early prolific Potato has been, since it was raised, kept almost in obscurity, being in the hands of only a few cottagers in this neighbourhood. Quite as a favour a few were given to me; I planted them, and, having succeeded well during the season, I was delighted to find not only that they were very superior in appearance, but the earliest I possess, and I grow most of the earliest kinds in cultivation.

After having grown Premier three years I became aware of its sterling worth, and thought what a pity it was that such a valuable Potato should be lost to the country. I then began to make inquiries respecting its origin, but could not procure any definite information for some months. However, eventually I was told that a certain person was the raiser; I waited upon him, when I learnt that he was not so, but could tell me who was. Having then obtained the proper name and address, I wrote to the gentleman, asking to be furnished with any information he thought fit to afford. I received an answer, not written, but verbally through a friend, stating that I had his full permission to do what I thought proper with the Potato, at the same time to give it a name. Hence the present one, Premier.

I now give the raiser or propagator's name. In 1858, the Rev. Samuel Charles Laxton, then incumbent of Mayrpool, Sutton Coldfield, received some seed of a Potato from France. It does not appear from what kind of Potato the seed was saved. However, some seed was handed to Mr. Charles Fulford, then gardener to Mrs. Saddler, Sutton Coldfield. Mr. Fulford's own words are—"I sowed the seed in a common flower-pot. When the seedlings were large enough, I planted them out in the usual way, the result being a first-class early Potato."

I wish it to be distinctly understood that although I have interested myself, or, in other words, have been instrumental in bringing this Potato before the public, I have no interest whatever in it. At the same time I have no hesitation in saying, that when this Potato is more widely distributed and better known it will be highly appreciated.

I am sure all who saw the Premier Potato, as exhibited by Mr. Fenn at the Royal Horticultural Society's gardens (see page 386, November 20), must have been pleased with its symmetrical shape and quality. In August last I saw the Potatoes, as they grew side by side, of which Mr. Fenn's beautiful collection was composed. His mode of culture is worthy of notice by those who have strong heavy land to deal with. As it is well known to the readers of THE JOURNAL OF HORTICULTURE, I will not refer to it further than merely to state that it is the ridge-and-trench system—a system by which Mr. Fenn has earned for himself a lasting reputation.—J. GARDNER, *Aston Hall Gardens, Sutton Coldfield*.

TRICOLOR PELARGONIUM SOPHIA DUMARESQ.

In justification of myself, I beg leave to state that the seedling which I sold to Messrs. Henderson was raised by me, and the plants that I grew were exhibited at the International Show as Sophia Dumaresq, and Messrs. Henderson have told me that they have sold it as the same.

As to the origin of my seedling, I raised it by fertilising Sunset with the pollen of Zonale Excellent, and I think I have a right to divide the honours with Messrs. Henderson. Sophia

Dumaresq, however, will not long be my best production, as I intend to exhibit a seedling early in the spring far superior to any in that class in colour, substance, and size of leaves.—JOHN ALDRED, 22, Bridge Street, Kilburn.

THE TREE FERNS OF NEW ZEALAND.

THE most interesting section of the Otago Ferns is the family of arborescent species—the tree Ferns, or "Fern trees of the colonists." Six out of eighty-eight species, or 6.81 per cent., of Otago Ferns are arborescent. These tree Ferns rank, undoubtedly, as to beauty, and frequently also as to height, girth, and usefulness, with the exogenous forest trees, with which they are generally more or less intermixed. In addition to the species observed by myself, *Cyathea Smithii*, Hook.; *Dicksonia squarrosa*, Swartz; *Dicksonia antarctica*, Br., are common Otago Fern trees, the *Cyathea Smithii* being, indeed, according to Buchanan, the commonest species of that genus in Otago.

Cyathea Smithii is green and smooth-fronded, sometimes forked into two stems; trunks 20 feet high; wood hard, close-grained, and heavy (Buchanan).

Dicksonia squarrosa is a very dark Fern, with blackish stipes and rachis; frequently gregarious, and the most southern tree Fern in the world. The "whēki ochiakura," or its abbreviation, "hikaura" [waik dial], of the North Island Maoris.

Dicksonia antarctica is dark green, sometimes forking in the stem, "the handsomest of all tree Ferns" (Hooker). This seems to be the principal tree Fern formerly used in house-building by the Maoris, preferred to the wood of exogenous trees, probably from its being more easily cut by their rude stone adzes and knives. Specimens of Maori domestic architecture are now mainly to be met with in old pāhs in the North Island and the Chatham Islands. The posts of the huts are of tree Fern trunks, which are frequently locked together with various "bush ropes," or "Supple-jacks," climbers, creepers, or forest trees, species of *Parsonsia*, *Metrosideros*, *Plagianthus*, *Rubus*, *Clematis*, &c., thatched with "Toi" Grass, (*Arundo conspicua*), while the interior is sometimes lined with tree Fern fronds interwoven with the leaves of *Phormium tenax*.

There are several points connected with the climatological relations and geographical distribution of tree Ferns in the middle island of New Zealand (provinces of Otago, Canterbury, and Nelson), which possess special interest. Of these the most prominent is the association of tree Ferns with glaciers, snows, and other evidences of an alpine and rigorous climate. Writers on botany and geology, descending on the beauties of tropical vegetation or the peculiarities of southern insular floras, or on the characteristics of the carboniferous flora lists nearest analogous of the present day, have hitherto been in the habit of associating the beautiful tree Fern vegetation of New Zealand with equability of climate, tropical heat, and stagnant moisture; but it is no longer possible to hug this pictorial delusion, for there are abundant proofs that in the provinces just named tree Ferns flourish in a climate in some respects as fickle and as rigorous as that of Scotland or the Swiss Alps. Nor are tree Ferns the only hitherto supposed sub-tropical tree forms which are there found bordering glaciers: *Fuchsia* trees, *Cabbage Palms*, and *Cordylines* are associated with *Araliaceae*, *Myrtaceae*, and other trees hitherto regarded as exclusively the denizens of comparatively warm climates, growing in the neighbourhood of glaciers as the Firs fringe those of the Swiss Alps. My friend Dr. Haast states that the largest glacier of Mount Cook, which gives rise to the Waihan river, descends as low as 500 feet above the sea level on the west coast of Canterbury, within only eight miles of the sea, on both sides of which glacier luxuriant forests of Fern trees, *Cordylines*, *Myrtaceae*, and other temperate and sub-tropical types are found. The same distinguished explorer further refers to the occurrence on the west coast of Nelson, at no great distance from the glaciers in question, of groves of true Palm, *Areca sapida*, with other trees of an equally sub-tropical character.

Comparable to the occurrence of tree Ferns beside New Zealand glaciers, is the fact recently recorded by Mr. S. Clifford, of Tasmanian tree Ferns covered with snow about Mount Wellington, near Hobart Town, at elevations of 1500 to 2000 feet above the sea, the Ferns growing 18 to 20 feet high close together in damp shady gullies, associated with the stately Australian *Sassafras* tree, *Atherosperma moschata*.

The altitudinal range of tree Ferns in New Zealand is also, perhaps, somewhat greater than we have hitherto believed. Mr. Vincent Pike, in his expedition to the west coast of Otago,

via Lake Wanaka, in 1865, saw on the banks of the Burke River tree Ferns at an elevation of not less than 1200 feet above the sea. In the mountain forests and ravines of Nelson they, according to Haast, ascend to the still greater height of 3000.

The testimony of all explorers points to the fact that tree Ferns are most abundant and luxuriant in the forests of the west coast; this has been noticed especially by Hector, Haast, and others in regard to "the bush" which fringes the deep sounds or fiords of that coast—*e. g.*, Thompson's Sound and Charles's Sound, where they frequently attain a height of 30 feet, while their umbrella-like tops of fronds have a diameter of 14 or 15 feet. This maximum abundance and luxuriance of tree Ferns on the west coast is associated by travellers with its superior moisture and temperature, the atmosphere of the dense, dark, jungly forest being saturated with damp, while the soil is a mass of the richest vegetable mould, composed mainly of the dead and rotting trunks of phanogamous trees and shrubs, as well as of arborescent and other Ferns, with soft, rotten tree trunks and branches covered with Mosses and Hepaticæ, the whole mass soaked in moisture, and forming a deceitful, tangled compost, into which one may frequently sink to the middle, or even overhead. There exist as yet no data for the determination of the precise climatological conditions of the west coast; and very meagre indeed are the materials obtainable for even an approximate exhibition of the general meteorology of Otago. But if Dr. Hooker's remark is correct, that "Ferns are natural hygrometers, and their luxuriance a certain proof of the dampness of a climate," the presence of Ferns in such beauty and plenty in the Otago bush must be held conclusive as to the humidity of the Otago climate. In connection with this it must be noticed that, in proportion as the forest is opened up to light and air by the woodman's axe, tree Ferns disappear, while the whole climate becomes drier; hence it happens that on the east coast, where the patches of bush are scant, and the bush itself has been thinned or cleared for the purposes of colonisation, tree Ferns, which were formerly abundant, are now rare, and of no great size or beauty.

The acclimatisation of the New Zealand tree Ferns in the gardens and pleasure grounds of Britain has lately been attracting the attention of some of our most experienced horticulturists. Mr. Gorrie appears to regard them as sufficiently hardy to be suited for out-door growth throughout the year in this country.

The circumstances favourable to the success of such experimental acclimatisation are the following:—Mr. Gorrie mentions that some of these tree Ferns have in this country successfully withstood a temperature of 20° Fahr. without fire heat, but under glass. Certain other Ferns and certain lowland phanogams of New Zealand have proved hardy in Britain in the open air. They occur in New Zealand and Tasmania associated with ice and snow; they ascend as high as 2000 feet—altitude being regarded as so far equalising the difference in latitude between Otago and Scotland. The Otago and Canterbury Alps are more than twice as high as those of Scotland—Mount Cook, the culminating point of the range, lat. 43° 30' S., attaining 13,000 feet; the presence of mountains of such elevation, capped with perpetual snow, and flanked by gigantic glaciers, tending to modify the insular climate, and, as in the last case, assisting in the equalisation of latitudinal differences. Though the winters in the lowlands and on the coasts appear to be milder than those of Britain, in the interior they are more rigorous, resembling those of the Swiss Alps; while, except in so far as there is a less marked contrast between summer and winter, the climate of Otago does not greatly differ from that of Scotland. The experiment of acclimatisation would be assisted in its chances of success by imitating, as far as possible in this country, the conditions of growth of the Ferns in New Zealand—*viz.*, by selecting as the localities of trial the milder districts of the south of England, or of the west coasts of Scotland and Ireland, which latter are at the same time moister, and, like the west coast of Otago, distinguished by the variety, abundance, and luxuriance of their native Fern vegetation.

The unfavourable circumstances are, apparently, the growth of the Otago Fern trees in the dark shade of the dank, dense jungles, and the difference in latitude between Otago and Scotland, amounting to about 10°. The district of Otago lies between 44° and 47° S.; Scotland between 55° and 58° N.; Dunedin, 45° 53' S.; Edinburgh, 55° 57' N. The difference in temperature—that of Dunedin, summer, 59°; winter, 42°; mean annual, 51°; Edinburgh, summer, 58°; winter, 37°; mean annual, 47°. The isothermal of 50° in the northern hemisphere passes through central Ireland and the south of England; but in the southern hemisphere it passes southward of Otago.

On the whole, though I heartily concur in the desirability of making all due experiment, I am disposed to doubt whether the tree Ferns and most other Ferns of New Zealand will be found hardy enough to stand the severest British winters unprotected from the unnatural influences of excessive light, cold, and dryness: I have none as to their suitability for growth in conservatories, where their natural condition of existence can be closely imitated. Mr. Buchanan, whose long experience as an Otago settler, and whose position as botanist attached to the Geological Survey of Otago entitles his opinion to great weight, states as his belief that the five arborescent Ferns of Otago (*Cyathea*, three species, and *Dicksonia*, two species), would grow in Britain in the open air if planted in park woods. Experience alone can decide; and meanwhile let us hope that some of our leading horticulturists who possess the necessary opportunities will institute the experiments.

Of the smaller New Zealand Ferns, species more or less hardy in Britain may be looked for in the genera *Leptopteris*, *Nephrodium*, *Aspidium*, *Polypodium*, *Asplenium*, *Trichomanes*, *Hymenophyllum*, and *Lomaria*. Some of these are alpine or sub-alpine, ascending to considerable elevations. Haast remarks on the considerable altitudinal range of species of *Lomaria*, *Asplenium*, and *Aspidium*, on the western alps of Nelson; and Buchanan states that Lycopods in Otago are common in the higher ranges of the south-eastern districts, at or above 4000 feet, where snow frequently falls.—(*Farmer*.)

NEW BOOK.

Benedicite: or, the Song of the Three Children, being Illustrations of the Power, Wisdom, and Goodness of God as Manifested in His Works. By G. CHAPLIN CHILD, M.D. Two vols. 12mo. London: John Murray.

WHEN we read the title of these volumes we thought that their contents were on a subject outside our province, but on perusal rejoiced to find that first impression erroneous.

It is now many years since the great naturalist John Ray published his celebrated work on the wisdom and goodness of God as manifested in the works of creation. Science since his days has made marvellous advances. Year by year fresh discoveries have been recorded, still larger additions to our stock of knowledge; but during all these great onward marches that wisdom and goodness have only been better understood, and more and more clearly demonstrated. Of such scientific researches the author of these deeply interesting volumes has carefully and ably availed himself. We commend strongly the work to our readers, and do so with the conviction that it will have a wide, welcomed, and beneficial circulation. For a specimen we opened one of the volumes at a venture, and it is at the page where Dr. Child is commenting on the elevations of our earth.

"In ascending lofty tropical mountains successive belts of vegetation are traversed, which represent in miniature the different climates of the earth as we pass from the equator towards the poles. At the base of the Peruvian Andes, for example, the traveller finds himself in the glowing temperature of the tropics. For the first 5000 feet of ascent his way lies among Pine Apples, Coconuts, Bananas and other kinds of Palms, with bright and fantastic-looking Orchids clustering on the trees, and marking the equatorial character of the belt. While plodding his way up the next 5000 feet of ascent the traveller sees much to remind him of the vegetation of temperate climates:—the Vine flourishes, while crops of Maize and Wheat luxuriantly clothe the ground, as in southern Europe. In passing through the next 5000 feet the temperature gradually chills into severe cold. At first vegetation wears the aspect of the higher 'temperate' climates. The Wheat has disappeared, and figuratively the traveller may be said to be as far north as John o'Groat's; but the Potato still thrives, while Barley and Rye assimilate the climate to that of parts of Norway. The stately trees of the lower belts have disappeared, and the forests are thin and degenerate, until at length a scrubby Pine or Birch is their sole representative. Here, at an altitude equal to the summit of Mont Blanc, the first wreaths of perpetual snow and the last efforts of expiring vegetation come into contact. Plant life as usual dies out with the Moss and the Lichen.

"Mountain ranges and lofty plateaux form a natural sanatorium frequently established by Providence in the midst of hot, unhealthy tropical countries. The worn-out invalid finds on these cool heights a climate which soon restores him to health, and enables him again to encounter the less favourable influences of the plains. Recent improvements in travelling have enhanced the value of this blessing by enabling many to take advantage of the change who formerly could not profit by it. The Madrasian retires to recruit his exhausted vigour among the bracing Neilgherries; the citizen of Calcutta travels to the

"upper country" to seek health among the slopes of the Himalayas; the Ginglees leaves the sultry coast to profit by the more bracing air of the coffee districts near Adam's Peak; the Mexican leaves the Galapagos for the Templaids or the Fris; and the Peruvian or Chilian of the coast finds cool air, verdure, and health on the lofty sides of the Andes. On the whole, there are few tropical districts so unfortunately placed as to be beyond moderately easy access to some mountain sanatorium.

"Mountains exhibit wonderful proofs of the force displayed in the arrangement of the surface of the earth. Geology tells us that many of them—like the lofty peaks of the Andes, or Ailsa Craig, or Teneriffe—have been cast forth as liquid lava from the interior of the earth by the force of fire. Others, again, though deposited originally at the bottom of the sea, have been lifted as it were on the back of other rocks, so as now to form lofty ridges. There are limestone strata of marine origin, labelled with shells identical with others found in low-lying beds near Paris, which are now placed at a height of 10,000 feet above the ocean, crowning the summit of the Diablerets among the Swiss Alps. Examples of similar elevations are met with among the Himalayas, in Tahiti, and elsewhere.

"Viewed under another aspect, mountains show forth the power of the Creator in a way still more marvellous. Many mountain masses and level strata consist chiefly of the remains of animals that formerly existed on the globe. The beautiful marbles of Derbyshire, for instance, owe their variegated markings to the shells which successive generations of creatures built up and left behind. One feels astounded at the profusion of ancient life revealed by those 'medals of creation.' Nearly the whole city of Paris has been reared out of the consolidated remains of microscopic *Miloids* quarried from the neighbouring tertiary beds, and calculations show that every cubic inch of this stone contains not fewer than 2000 millions of individuals. The most famous of the pyramids are formed out of the remains of microscopic nummulites, cemented into a building-stone which is found abundantly in Egypt and in many other places. One of the most remarkable examples of the former profusion of life is to be found in the polishing slate of Bilin, in Bohemia, which is estimated to contain the remains of 41,000 millions of infusory animals in every cubic inch.

"Look at those distant hills! We recognise the English Downs by their soft, wavy outline, by the marvellous brightness of their green, by their springy turf, by the white sheep-specks that dot their gently sloping sides, and by the bracing air which sweeps over them with the crisp freshness of the sea. They undulate in a broad belt through England, from the shore of Dorset to the cliffs of Flamborough and Dover. In the north of Ireland the chalk has been broken through and almost fused by the volcanic fires which once formed the Giant's Causeway. It extends across the continent of Europe in several directions nearly from end to end, and in other quarters of the world it is largely developed. The vast mass is heaped upon thousands of square miles of the earth's crust. Yet it is but the sepulchre of myriads of creatures that formerly existed, and the visible evidence of the profusion of life that issued in ancient times from the Creator's hand. Scattered throughout are the bones of reptiles and fishes, with corals, sea-urobians, sponges, and other marine remains. While surveying these relics we realise and seem to become familiar with the curious forms of life which then existed. But the tomb of chalk in which they lie is itself composed partly of crushed, compressed, or metamorphosed shells, partly of myriads of microscopic animalcules, whose structure and markings are often as beautiful and perfect as if they had only died yesterday. Who can conceive the abundance of the life which thus built up those hills? Yet everything tends to show that there is not an atom of chalk in the world which did not once form part of a living animal!"

ENTOMOLOGICAL SOCIETY'S MEETING.

THE second Meeting of this Society for the season was held at Burlington House on the 19th of November, Sir John Lubbock, B.R.S., President, in the chair.

Professor Westwood exhibited the pupa case of *Thecla Betula*, reared by Mr. Dembski near Oxford, remarkable for being destitute of a girth of silk round the middle of the body, which is the distinctive character of the family *Lycenidae*, to which it belongs. He also exhibited several new and rare Brazilian species of *Papilio*, forming part of the Borehellian collection lately presented to the University museum of Oxford.

Mr. Jenner Weir exhibited portion of the nest of an exotic species of *Ant*, the interior of which had a paper-like lining.

Mr. Gregson sent for exhibition a number of remarkable varieties of British Butterflies—*Pieris Napi*, *Cardamines*, *Sinapis*, &c., also an apparently new British species of *Gelechia*, a genus of *Microlepidoptera*.

Mr. Stainton exhibited a living specimen of *Strathmopoda Guerini*, the larva of which had been found by Dr. Standinger, of Dresden, at Celles les Bains, in the South of France, inhabiting the interior of long pod-like galls formed by *Aphides* (of which they sometimes contained many hundreds of individuals), at the ends of the twigs of *Pistacia Terebinthus*, some of the galls being a foot long. The Moth is remarkable for the manner in which it elevates its very large hind legs, which are stuck out sideways like a pair of oars; whilst in this position the Moth is able to walk a considerable distance with its two

other pairs of legs. He also exhibited a drawing of an analogous Indian species, *Atkinsonia Clerodendronella*.

Mr. Crotch exhibited sixty species of Coleopterous insects not hitherto included in the British lists. Some of these had, however, been previously known, but confounded with other species.

Dr. Knaggs sent for exhibition several new species of *Moths* and other insects; and Mr. Samuel Stevens exhibited a pair of the very remarkable *Eucheirus Dupontianus*, the male of which has the fore legs enormously elongated.

Mr. Hewitson sent a note on the peculiar structure of the plumules on the wings of the males of certain species of *Pieris* (*P. Thestylis*, *Autothysbe*, &c.), observed by Mr. Watson, thus confirming the propriety of their formation into a separate genus, as proposed by Mr. Hewitson. He also sent for exhibition some masses of eggs found in great numbers on Ling.

Mr. Janson exhibited a specimen of *Macronychus 4-tuberculatus*, a small but very interesting genus of Water Beetles new to this country, captured by Mr. Harris near Burton-on-Trent.

Professor Westwood described a singular specimen of *Pieris Pyrrha*, a Brazilian Butterfly, in the collection of Mr. Hewitson, of which three of the wings were coloured white and black as in the ordinary males of that species, whilst the greater portion of the fourth wing was gaily coloured, as in the female, which greatly resembles one of the species of *Heliconian* Butterflies, so common in South America. He took the opportunity thus afforded of expressing his dissent from the views as to the nature and origin of these mimetic species propounded by Mr. Bates in an elaborate memoir published in the "Transactions of the Linnean Society," considering them simply as exaggerated instances of those analogies which occur in a more or less marked degree throughout nature.

Mr. Wallace, on the other hand, entirely adopted Mr. Bates's opinions, considering these mimetic species not only as possessing their powers of mimicry as a defensive element in their existence, but that they had attained thereto by a successive system of development from the ordinary form and colour of the group to which they belonged. He considered that this was more necessary in the females than in the males, and instanced not only the common walking-leaf insect of India, but also several very interesting species of Butterflies of the genus *Diadema* collected by himself, the females of which resembled various species of *Euploea*.

Mr. Bates also maintained the views he had laid down, and supported them by the instance of *Papilio Torquatus*, of which he stated that he had observed two forms of the female, each of which mimicked the group of *Papilio* most dominant in the district where each of the varieties occurred.

Dr. Sharp opposed these views, and suggested several grounds, distinct from that of defence maintained by Mr. Bates, to which the development of these mimetic species ought to be attributed.

Mr. McLachlan observed that the veins of the wings in the *Procidæ* were very inconsistent, whence he was led to infer that all the various species had descended from one antecedent type.

UNBOILED BONES FOR A VINE-BORDER.

IN the spring of last year I had a cartload of broken bones, not boiled, mixed with four loads of ashes and one of fine earth, and left under cover together, in order eventually to mix with the inside earth of a viney in course of formation. I have found, however, that the animal matter of the bones has coagulated the whole mass together; and though dry, and easily friable when struck, I fear that when put into the viney some injury may arise from the animal matter evidently yet remaining. Would it be better at once to mix a cartload of quicklime with the whole mass, and let it lie together for two months under cover, or what would you advise to be done? I remember reading in the *Journal* some time since a complaint from some one of her Vines moulding from unboiled bones being mixed with the soil. The mixture will be required in March or April.—C. W., *Devonensis*.

[We would advise not only mixing the lime with the heap, but surrounding the whole with a bed of hot dung or fermenting leaves. The heat will cause all to mingle in a rich friable compost.]

DRY FEET.—The present wet weather reminds me of a receipt for preventing rain water, or, that which is more insidious still, melted snow, from penetrating through boots. I read it many years ago in the "Mechanics Magazine," and have derived much satisfaction from its adoption, for it not only excludes wet, but makes the soles last much longer. The composition is very simple—viz., two parts by weight good tallow to one part of rosin, melted together over the fire in a pipkin, and stirred so as to become well mixed. The soles of the boots should be gently warmed previous to applying the composition, to prevent its "freezing," and to expand the pores of the leather, as well as rarify the air which these con-

tain, so that they may be the more easily and completely filled by the mixture. Care should be taken not to apply it too hot, otherwise the stitches will stretch or crack, and the shoemaker's work gape—better err in the opposite extreme, for then no harm can result beyond the mixture not sinking in. It may be put on either with a brush or flannel tied on a piece of stick. I have known the soles of a by-no-means-heavy pair of boots take up 4 ozs. of the composition; they would have absorbed at least an equal weight of water. So much for the modern rapid system of tanning. I have generally not applied the composition to the upper-leathers, as it prevents their being polished for some time, and diminishes their pliability; but those who have to go among wet grass should do so. I

believe that adding a little carbonate of soda to the composition when used for the upper-leathers prevents these becoming hard, probably by converting a portion of it into soap, but this I have not tried. After the boots have been some time in wear they should, when dry, have a fresh dose.

Another mode of waterproofing boots which I have found even more effectual than the above is to do them over with what is known as pine-varnish, previously warming it; this, when it can be obtained good, effectually excludes wet, but it is some time before the smell of tar disappears. Where this was not objected to I would use pine-varnish in preference to the rosin and tallow mixture. Both answer well, and will be found to increase the comfort and duration of shoe-leather.—H. W.

LITTLECOTE,

THE RESIDENCE OF A. H. L. POPHAM, Esq.

NEARLY a quarter of a century has passed since a wayfarer was travelling from Hungerford to Ramsbury, and pausing on high ground looked down upon an Elizabethan mansion at the

foot of the hills on the other side of the valley of the Kennet. It was a dull evening, the shadows were towards the traveller, this rendered more sombre that always sombre-looking mass



of dark brickwork, and he thought as he resumed his journey, "That's a fitting mansion for a mystery;" but at the time he knew nothing of its history, nor even its name.

Years passed and the place had never recurred to his memory, when an occasion arose rendering it desirable to trace the pedigree of a Darrel. The traveller was once more at Hungerford, and once more on the road to Ramsbury to search its register, and he then found that the "fitting mansion for a mystery" was Littlecote, and until the days of the first James the residence of the Darrels. It came to them by the marriage of William Darrel, Sub-Treasurer of England in Richard the II.'s reign, to Elizabeth, daughter and heiress of Thomas Calston, Lord of Littlecote. Those Darrels were an unruly race; but let us pass over the evidences of this until Henry the VIII.'s time, when Edward Darrel, of Littlecote, was summoned before the King's Council for killing deer in Ramsbury Park, without the permission of its owner, the Bishop of Sarum. That high poacher's son William it was who was more usually known as "Wild Darrel." Nor was the characteristic epithet wrongfully prefixed.

In 1585, petitions had been presented to the Council against

him, and "John Keene, late of Littlecote," was examined relative to sheep-stealing, and his having been one of a party who kept possession of the Manor of Andviles, by appointment of his master, William Darrel.

As is usual the career of evil was precipitate, and the local tradition preserves the memory of the final fall. Britton in his "Beauties of Wiltshire," tells the tale, but the traveller heard from more than one resident in the vicinity this still-retained tradition.

Near the close of the reign of Queen Elizabeth, an old midwife residing at Chilton, a village between Ramsbury and Hungerford, was roused at night to attend a lady who needed her midwifery skill. The night was clear and the moon at the full, so that the midwife could discern that the messenger was of gentle blood. He told her that she must be blindfolded and mount on the pillow behind him. The fee proffered prevailed, she submitted to the terms, and the bandage was not removed from her eyes until she was in the bedroom of her patient. That room and its furniture indicated that she was in no mean mansion. The child was born, but no sooner born than murdered by the same gentleman who had

brought her to the bedside, and the body was burned in the fire of the chamber. On a following night the midwife was again blindfolded, placed on the pillow, and put down at her cottage door. "Wild Darrell" was tried and convicted for that murder; the principal witness against him being the midwife. She described the kind of road they seemed to travel, the apparent distance, the water they forded, and, above all, she produced a piece of the bed-curtain which she had cut from it as she watched by the bedside. It corresponded with and fitted a hole in a bed-curtain at Littlecote. She described the bedroom before she was again taken to it, and she identified "Wild Darrell" as the murderer of the infant. Its mother was his wife's waiting woman.

Though convicted he was pardoned, and Sir John Popham, Lord Chief Justice, who tried him, became the possessor of Littlecote. "Wild Darrell," as he passed from its domain, was thrown from his horse and killed at a place still known as "Darrel's style."

The bedroom in which the murder was committed is on the front of the house opposite to that shown in the accompanying drawing, and the corroborating bed-curtain was not destroyed until a few years since.

These pages are not a fitting place for discussing for what consideration Sir John Popham became Lord of Littlecote, nor will the changes be here traced that time and taste have wrought in the grounds around.

At present the park is entered through a lodge-gate near Ohilton, up an avenue of very old Elms, now going fast to decay. Nearly half a mile has to be passed over before coming to the entrance-gates, from which extends a fine-cut Yew hedge hiding the boundary-wall. On each side of these gates is a large circle of turf around which passes the gravelled carriage approach to the front door. In the centre is about half an acre of grass-plot, with a sundial in the middle. Each side of this entrance is very tastefully planted with very old-fashioned shrubs, and in the centre, near a greenhouse of the olden time, is a very tastefully laid-out garden filled with a fine collection of herbaceous plants. At one end are two very large Tulip Trees with seats around them. At the back is a raised terrace commanding a view over all the south-front ground. Leaving this, let us to the west end of the house which the engraving shows. This part of the garden is about half an acre, with a geometrical garden for bedding-out plants; and on the south side are two large houses, one a stove, the other an intermediate house for supplying the greenhouse with flowering plants.

The south front of the dwelling-house is much covered with Pears, Figs, Pomegranates, and Roses. Before them is a six-foot border for bedding-out plants.

Next is the chapel-yard. It is a square piece of gravel, each side, measuring about 20 yards, with a border before each for evergreens on the north side, and Chrysanthemums on the south side. The wall is occupied chiefly with Figs. This part covers about four acres altogether.

Next is a square walled-in garden of two acres more, one part for bush fruit and Strawberry-ground, and the south part containing the forcing department with two long ranges of forcing-houses, one range vineries and Peach-houses, the other for fruiting Pines, and in each a very choice collection of most of the best varieties. In the front of these houses are two ranges, one for succession Pines and suckers, the other range for Cucumbers and Melons.

The east wall of this garden has Peaches, &c., the west Pears and Plums. At the west end is the gardener's cottage, very tastefully built about sixty years since.

On the other side of this garden is the Wilderness, laid out on a French plan. A few years ago this was quite a thicket, but now it has been broken up and planted with vegetables and Filberts standing here and there, but the Wilderness still remains.

Beyond the Wilderness is the north terrace, which is a very fine surface of grass covering half an acre.

At the bottom of the Wilderness is a Holly hedge separating it from two long flower-borders and three long grass walks. A fine trout stream runs the remaining length of the garden.

Then come three walls. The east is a Pear wall, and the west is a wall for Plums and Cherries. The south wall has upon it Apricots, with a 14-foot border for early Strawberries and early Peas. This part occupies four acres.

Then occurs another square walled-in garden of about two acres, known as "The Orchard." There is a very large carp pond in it, quite hid from the garden by two Filbert hedges,

and Quince trees hanging over the water. On the north wall are trained Morello Cherries, on the west wall are Coe's Golden Drop Plums, and on the east wall a mixture of Peaches, Pears, and Plums.

There are two orchards well stocked with very large productive trees. Something like 150 sacks were gathered from them at a time when in their prime.

The park is very large and beautifully timbered. About six hundred deer range within it.

The accompanying drawing shows the old greenhouse, the library, the chapel, and the billiard-room, with a side view of King William's room, and three bedrooms in the centre. "King William's room" is that in which he slept when advancing upon London to the dethroning of James the Second.

FIGS.

Two or three years ago I saw at Chiswick a good-sized house devoted to the examination of all the varieties of the Fig which the Royal Horticultural Society were able to procure. It was understood that synonyms were to be rectified, and the nomenclature of the fruit placed on a satisfactory basis. May I ask whether any report has yet been published, and if so whether we may hope to see it transferred to your pages?—G. S.

[We believe some progress has been made at Chiswick in determining the synonyms of Figs; but as last year was the first that was attended with any success, and that only partial, it is probable that no report will be made till after another season's experience.]

ROYAL HORTICULTURAL SOCIETY'S EXAMINATIONS.

ON Tuesday and Wednesday last the first of the examinations of gardeners by the Royal Horticultural Society was held in the council-room at South Kensington. Eighteen candidates had sent in their names, but four of these having retired, the number that appeared was fourteen. Six of these were students from the garden at Chiswick, four were from the Royal gardens at Kew, and the remaining four were from private gardens. Three went in for the examination to qualify them as Associates of the Society, and the others competed for certificates.

We have reason to believe that the result of the examinations has been most satisfactory, and highly encouraging.

SUPPLY OF SEEDS.

IN your Number for January 31st, 1885, you have—"Amongst the wonders of the age is the price at which our leading seed merchants send out their seeds." True, the moderate price is wonderful, but amateur gardeners could be further benefited by a greater reduction—viz., by half the quantity being in the package, and thus each being sent out at half the price, and so they could obtain two sorts instead of too much of one. What is the use of my having two-and-sixpence-worth of Hibiscus when one-shilling's-worth would be more than enough?—SEEDS, Cloyne, Co. Cork.

WORK FOR THE WEEK.

KITCHEN GARDEN.

LITTLE can be added to previous directions under this head. The operations one week are but a repetition of what has been, and still will be, necessary for some weeks to come. It is truly said that "necessity has no law," and it may as justly be said that most of our operations at this season have no law as regards the time of performance, that being entirely dependant on the state of the weather. Common sense will suggest to every one desirous of excelling, that no opportunity should be allowed to slip by of getting the soil in a favourable state for the reception of the various crops which must soon be committed to it, and as the basis of success is allowed by all good practical gardeners to be a thorough system of drainage, no time should be lost in attending to this most material point. Whatever is done should be done well. We would never allow a drain to be put down that was likely to become deranged in its operation, as the good that might otherwise be derived from it would be nullified by the difficulty of ascertaining where

the defects were. As this kind of work may be done at any time when it is dry overhead, it will be well to look to it in time. It not unfrequently happens that failures or indifferent crops in small gardens are attributed to the deficiency of manure, while close at hand ditches are rendered inoperative by accumulations of matter which could be usefully applied for the enrichment of the soil, but as the scummings can seldom be carried on the land as they come from a ditch they should, by way of preparation, be stored in heaps, which might be turned over once or twice in the course of the winter, and be mixed with lime rubbish or road-scrappings. Let manure be wheeled upon vacant ground when this can be done without injuring the walks, and let all spare ground be turned up as soon as possible, so as to expose it to the action of frost. For land that has been long cropped, a dressing of fresh loam would in many cases be preferable to manure, and where such is wanted, and can be obtained, it should be placed at hand in order that advantage may be taken of frosty days for wheeling it upon the ground. Where fresh soil cannot be had, charred vegetable refuse, such as prunings of shrubberies, edgings of walks, and many things which turn up in the course of the season, may be cheaply made to form an excellent substitute. *Asparagus*, if the beds are not soiled up for the winter, no time ought to be lost in doing so. Litter or leaves ought likewise to be placed round the stems of *Globe Artichokes*. *Cauliflowers*, pick off decayed leaves of these and *Lettuce* plants in frames or hooped beds. Some quicklime or wood ashes forked lightly in amongst them will keep dampness, snails, and slugs in check. *Peas* and *Beans*, draw earth to the stems of the first sowings. A little dry charred earth is excellent, laying it on each side of the stems. A few branchy sticks, or spruce fir, will defend them from cold cutting winds.

FRUIT GARDEN.

See that standard trees which have been recently moved or root-pruned are firmly secured against wind; also let any root-pruning or transplanting remaining to be done this season be executed before frost set in. Orchard trees of large size are much neglected about many places as to pruning, the heads being allowed to become so thick of wood that fruit cannot be expected save from the points of the outside shoots; and except when the fruit is accidentally thinned to something considerably below an average crop, the produce is small and indifferent in quality. Dry frosty weather offers a favourable opportunity for thinning the trees properly, as men can work at this with comfort when nailing would be very cold work, and advantage should be taken of the first spare time to give them a careful pruning. The heads should be liberally thinned, cutting out all branches which cross the others, and dead pieces, and leaving the shoots sufficiently far apart that light and air may have free play among those left when the foliage is on. In removing large branches care should be taken to make close clean cuts, and if the wood is coated with strong thick paint, this will help to prevent its decaying before the wound is healed over. Plant all kinds of fruit bushes, clear off the prunings, and manure the ground so as to be ready for digging when this can be done. Also take advantage of leisure time to thoroughly examine the fruit-stores, and remove any that are found to be decaying. Of course, the frost must be excluded from here, but on no account use fire heat unless the temperature cannot otherwise be kept above freezing. Admit a little air on mild days, especially after keeping the room shut for some time, but as the fruit will now give off but little moisture, very little air will suffice to keep the atmosphere dry, and no more than may be necessary to do this should be given.

FLOWER GARDEN.

Dig or trench all vacant pieces of ground, leaving the surface as rough as possible. Sweep and roll grass lawns and gravel walks. Afford protection to tender plants by a liberal supply of suitable materials. Prepare composts, soils, and manures by frequent turnings.

GREENHOUSE AND CONSERVATORY.

Many of the failures in plant-growing, and the sickly and drawn character of the inmates of hothouses and greenhouses, may be fairly traced to the attempt to keep up a degree of artificial warmth altogether out of proportion to the amount of light. No axiom is of greater import in gardening than that the heat as well as the atmospheric moisture should at all times be regulated by a strict reference to the amount of light. No prescribed amount of temperature will suffice without some modifications founded on the character of the weather. For instance, a general temperature of 55° by day may be recom-

mended for the conservatory during December, supposing it to be, as a house of the kind ought to be, filled with blooming *Camellias*, *Hybrid Roses*, and a host of other gay-flowering plants. This recommendation will be very suitable whilst the weather continues open; if, however, frost suddenly supervene the attempt to keep up even this moderate temperature will, from the construction of most houses, soon produce bad effects provided the frost continue, more especially if accompanied by a dull and lowering sky. In such cases the experienced gardener will betake himself to the minimum amount of heat, and be content with an average of 45°. The attempt to maintain an unnatural amount of heat will, of course, require the assistance of a corresponding amount of moisture, and this, under ordinary circumstances, will have a tendency to produce drip, or at least an unnecessary condensation of steam on the flowers, the delicate texture of which cannot, at this period especially, be trifled with. *Pelargoniums* should be kept rather cool and dry, giving whatever water may be necessary on the mornings of fine days. *Cinerarias*, for late blooming, must also be kept cool and airy, and should not be allowed to suffer for want of pot-room. The decay and removal of *Chrysanthemums* and other plants which share the protection of the conservatory merely during their blooming period, will gradually give place to the forced flowers. The forcing-pit for this purpose should be regularly filled from this period with *Rhododendrons*, *Azaleas*, *Persian Lilacs*, *Roses*, *Sweetbriars*, *Honeysuckles*, *Kalmias*, *Daphnes*, *Rhodoras*, the more advanced *Hyacinths*, *Narcissus*, *Tulips*, &c. Cold frames afford the best possible accommodation for the culture of greenhouse plants in the summer; but unless they are furnished with pipes, so that a little heat can be had to dry the atmosphere occasionally, and also to exclude frost, they are not fit quarters for many things in winter, for plants which are impatient of damp will not bear being covered and shut up, as, in severe weather, must be done to exclude frost; and although in mild winters most greenhouse plants may with care be wintered in cold frames, such plants as *Boronias*, *Leschenaultias*, and *Gompholobiums*, should be removed to safer quarters at once. Water cautiously, keeping all plants rather dry, but not excessively so. Be prepared with efficient covering against frost, and give air freely whenever the weather will permit.—W. KRANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

A rising barometer on the 17th and 18th, heavy rains at times, and a foggy atmosphere and sunshine on the 19th, would lead us to hope for a change of weather, were the changes in the barometer less rapid. It is possible there may yet be frost before Christmas, and a dry or hard-frozen road is of great importance for promoting the happiness of thousands at that season.

From the damp and mildness of the weather everything out of doors is unusually tender this season, and will require additional care if severe weather should come, and we may expect it ere long after the days begin to lengthen. Owing, no doubt, to the mildness and dampness of the weather, forced vegetables, as *Sea-kale* and *Asparagus*, have come in earlier than usual, and in a very mild heat, so that we have been obliged to put in successions of *Sea-kale* and *Rhubarb* sooner than we intended, and we shall be obliged to follow with *Asparagus* before long. Where there is much of any of these vegetables to be forced, it would be worth while to cover the ground in which they are growing with litter to keep the warmth in, as after an average temperature for some time of little below 50° in sunless weather the earth has a genial warmth; and the litter would even prevent its being much cooled by evaporation, whilst loss of heat by radiation would be greatly diminished.

Our stiffish soil has been too wet to do much upon it, and therefore, besides giving abundance of air to everything under protection, and keeping off the rains and damp as much as possible, the chief outside work has been collecting all the leaves in the park that the gales of wind had left us, placing them in a heap, where they will soon heat strongly, owing to being so damp, and mending straw covers, washing pots, and cleaning plants in wet days. When leaves are to be carted any considerable distance it is well to choose a dry day for collecting them. Lying on the surface, they soon dry when there is a day or two of fine weather. Double the quantity may then be carted with the same horse power, and then the dry leaves will keep much longer, and be ready to ferment at

any time when moisture is applied to them. When wanted to be kept dry and as little heated as possible, the leaves cannot be trodden too firmly, whether exposed or under a roof. When collected damp the sooner they are used the better, as if not placed very thinly they are sure to heat and decompose, and it is as well to have the use of the heat as it comes. No other fermenting material needs less preparation. We never knew the most tender plant suffer from the vapours and gases given off by the decomposition of even fresh-collected tree leaves. Nothing will quite take the place of rotten tree leaves in the shape of leaf mould. Even when used for the manuring of the kitchen garden the crops will be sweeter, though not so heavy as those to which farmyard manure has been applied.

We shall stir the surface soil among all young crops as soon as the ground is a little drier; but for this and forcing vegetables we must refer to previous Numbers.

Put a barrowload of Swedish Turnips into the Mushroom-house, as the tops when blanched yellow may be useful, and very desirable, if we should have severe frost a few weeks hence; the blanching of the fresh tops just leaves enough of the Turnip-top flavour, and takes away the rankness. Some good judges have pronounced them better than Sea-kale, but they are best from December to February, after that they are apt to have too much stem in proportion to the leaves.

Mushroom-house.—So much having been said on this, and in answer to inquiries, we notice it just to show that at times we may do with advantage what on the whole we do not consider the best. Our bed in the open shed covered with litter is still doing well. The first piece in the Mushroom-house is just showing a few whitish spots like the heads of pins, the first symptoms of what we may expect in eight days or a fortnight. The second piece has been earthed-down for a short time, and we wanted a third piece, as these shallow beds, averaging a foot thick, cannot be expected to bear very long. We find we have not enough of materials by 3 or more inches for the third piece, and they are quite damp enough. We have some droppings mixed with a good deal of litter lying in an open shed, and that material, though fresh, is also too wet, and as we have no hopes of its drying if spread out in this damp weather, we have thrown it together into a heap, where it will soon heat and ferment itself dry. If it were even too wet to do so, we would cut up with a bill two or three barrowloads of rather dry litter, into pieces of about 4 inches in length, and mix it with the wet manure; but ours will do without that, though we frequently resort to that plan rather than have our material too wet, or too much decomposed in the partly-drying process. Now, let it be clearly understood, that we throw this material into a heap, conical or otherwise, solely for the purpose of having it sufficiently dried, and well knowing that the heat thus produced and given off will take away into the air some of the most valuable properties of the manure for producing good Mushrooms; but we make the compromise, though well aware that the less horse-droppings, &c., lose by decomposition before being made into a bed, the better it will be for the Mushrooms, provided the Mushroom-bed never becomes too hot—say never above 95° to 100°, and never is above from 75° to 80° after the insertion of the spawn. As an encouragement to amateurs with little material at command, we may mention that we have never seen finer beds than those that had been made with almost fresh materials, adding merely from half an inch to an inch depth at a time, and beating every layer. No great heat was ever thus produced; a regular mild temperature was a long time maintained, and the Mushrooms were fed with the best of the manure, which had not suffered from its most valuable constituents being driven off by additional heat or drying before being placed in the bed. We would wish it to be clearly understood, that when we throw such material into a heap as above, it is that we may obtain comparative dryness, even at the loss of fertilising properties.

FRUIT GARDEN.

Besides moving the slight covering on a Vine border, placing some warm leaves next the soil, and the old covering on the top, and giving abundance of air to Strawberries in pits and frames, the chief work has been pruning and nailing, and treating a row of low bush Pear and Apple trees much as was described lately for Gooseberries—namely, washing them all over with thin lime whitewash applied through the nozzle of an old syringe. The Plums first done, and after deluges of rain, have still kept the most of this whitening on them, and as yet no birds have seemed to touch them, though previously Gooseberries and dwarf Cherry trees that will be a picture if let alone, were being stripped. It was very distressing to look below the Pear trees, last season, for with every contrivance

we were nearly conquered, and this lime-washing when mixed with soot, &c., the birds seemed to care but little about. We think the white colour deters them at present. The other evening, just before roosting-time, we counted on a small Thorn tree whose top stood above the Laurels, more than three hundred small birds. Tomtits and bullfinches are our worst enemies now. We do not know how far the bullfinch may at any time deserve to be considered a friend to the gardener; but it goes against the grain to destroy such pretty birds, and if any one could devise a plan for keeping it from the gardens in the bud season, he would confer a lasting benefit. There can be no question that the tomtit is a good friend in summer, and in return for that we would not so much mind his picking a hole in some of the finest Pears and Apples; but the clearing off the whole fruit-buds of a tree is a different affair, and a dozen or a score will soon clear a garden, as if they eat any of the buds at all, it must be an infinitesimally small portion, for thousands of buds gathered up by us did not seem as if they had a nip taken out of them, but were merely picked out and thrown down.

ORNAMENTAL DEPARTMENT.

The mild weather furnished a good opportunity for giving all the air possible to rather hardy plants, and changing the atmosphere of warm greenhouses and warm stoves, by giving air, and to allow of that being done a brisk fire would be desirable during the day. On such a day as Wednesday, with its cheerful sun, frames, pits, and houses that had to be defended from damp, had all the lights possible removed that the plants beneath might receive the full benefit of the sun to harden their tissues more, wherever that could be done without injury. Such hardening by all the light possible is the best preparation for severe frosty, snowy, or dull weather if it come.

As several times advised, wherever there is danger from damp, and it is resolved to keep bedding plants in cold frames and pits, it is best to dispense with everything in the way of an old hotbed, litter, and moist fermenting materials; to have a raised platform several inches above the surrounding ground level, to have the ground sloping outwards from the frame or pit, to spread over it a coating of tar in summer to a width of at least 4 feet, and then to cover with gravel, placing the finest at the surface, and roll. This will insure all moisture being thrown off for this width, and secure moderate dryness for the bottom of the bed inside, if watering and air-giving are carefully attended to. In damp weather air should be given back and front, by tilting the sashes a little up, which will prevent a sudden shower or drizzle wetting the plants. Excess of wet and damp are the great evils to be guarded against in such circumstances from November to March. Hence, if there is room in forcing-houses, when the trees are at rest for a few months in winter, it often saves labour to take the plants there in the most gloomy months, and where, though kept cool, they can have a little fire heat to keep the air in motion in cold and damp weather. They must be taken out, however, before they are weakened by heat. The larger the house the better will the plants thrive, if from nothing else, owing to the greater quantity of light they will have in the dark days, and the greater body of air by which they are surrounded. Even in such houses we find that lots of young plants want looking over to pick off leaves even slightly damped, to stir the surface soil, and see that, as respects moisture at the roots, the plants are neither too wet nor too dry, bearing always in mind that plants just kept healthy and rather dry than otherwise, will suffer much less in sudden changes of weather than those having their tissues charged with moisture.

The other morning presented a fine example of the importance of having glass roofs, &c., of a different pitch in winter from that which would be found best in summer, so as somewhat to convince those that otherwise would have continued to argue that the difference of roofs could make no difference to the plants beneath them. The early sun appeared through a field of crimson and gold, and the rich-coloured rays were thrown with great brilliancy on the upright sashes of the conservatory and verandahs, striking them almost perpendicularly, whilst not a single roof besides, flat or steep, showed a trace of the rich-coloured light. To have produced the same beautiful phenomenon, even on our steepest roof, the sun would have had to shine for several hours longer.

Ventilation.—We have spoken of this being given liberally in the mild weather. If we should have a change before another week, and if there is no means of heating the air before it is admitted, then in all houses where a high temperature is to be maintained in cold weather, it will be safest to

confine the air-giving to the highest part of the roof, and to be more particular about giving a little air early than to give much. In a dry, parched, keen, frosty air out of doors it will be safer to allow the heat to rise gradually with the sun 10° more than usual, with a little air previously given, and perhaps sprinkling the paths, not slushing them, than to admit as much air as would keep the temperature down to the general standard. The additional sun heat will do no harm if it raises the temperature of the house gradually, and if everything like scorching and scalding has been avoided by giving a little air early. Whenever a bright day is anticipated the heating medium should be allowed to cool pretty well down before the sun is powerful in the house, so as not to have sun heat and fire heat exerting their forces together. Then, again, in hot-houses, it would often be better in every way to allow the temperature of the house to fall from 5° to 10° lower than usual, but within the point of safety, for short periods, than to keep a house at the same temperature when the air outside was 20° above the freezing-point as when it was 20° below it. More plants are thus injured by excessive fire heat than by low temperatures for short periods. When a high temperature is thus maintained great attention must be paid to atmospheric moisture; but this is of much less importance in a house of from 55° to 60° than it would be in one of from 65° to 75°. In sunny frosty weather the fires should be so regulated as to begin to exert an influence in the house just as the sun heat is gradually leaving it, and no great fires should be put on in the morning before a good estimate can be formed of what the day is likely to be.

Window Gardening.—When spare rooms with a fair amount of light are set apart for bedding plants, and succession plants for the windows of the living-rooms, the plants are less liable to damp off than when growing in cold frames and pits, and much may be done in moving them in turns close to the light, and taking care that at this season they have not only all the direct, but all the refracted and reflected light possible. Plants in living-rooms cannot be too near the glass in ordinary mild weather, and the chief care they require will be to keep them clean, and to neutralise the dry air of the room by frequently sprinkling the stems and foliage with a sponge or hair-brush. We have no doubt that the time is at hand when the lovers of flowers in towns will have double windows, and a space of 2 or 3 feet between them in which to grow some of their pets, so as to be protected alike from the varying outside temperature and the dry air and dust from the living-room. The little greenhouse might have an iron bottom, and a gas jet, or a drawer for hot water beneath when wanted.

In towns where the houses are packed thickly together, additional care will be required, as, besides the common dust from rooms and from the outside streets, there are the noxious gases from burning gas, those that escape along with the coal smoke from so many chimneys, and the deposition of sulphurous carbonaceous matter in the form of soot, which clogs up the pores of the plants, and prevents anything like a healthy perspiration or respiration. Plants cannot remain healthy with such incrustations on their leaves. When the plants are of some age, it is less injurious when the stems and trunks are so encrusted, and hence deciduous trees thrive very fairly in towns where evergreens become worse instead of better every year. The reason of this is, that the buds of deciduous trees do not break into their summer livery until the worst of the coal and smoke season is past. Hence the poor woman in her garret or back-kitchen window in a crowded city, will manage a Fuchsia in her broken teapot better and more easily than she could a florist's Pelargonium, because the Fuchsia will be almost leafless in the dark winter months. On the same principle a stout old plant of a scarlet Pelargonium, or a plant of the old favourite Hydrangea, will be more easily managed than such a Pelargonium as mentioned above, or even a small Camellia, because though the leaves of the first two fade in winter considerably, yet if the plants be kept dry and at rest in the darkest months, it will not interfere with their blooming if they be set gently growing after the darkest days are past; but the chief secret for keeping window plants healthy in towns is a continuous use of the sponge and the syringe, or dustings of water from a clean hair-brush, to keep the foliage clean and fresh. The next important consideration as respects the safety of the plants is keeping them from frost, and that is best done by setting them in frosty nights in the middle of the room, or in a corner as far as possible from the window and the doorway, and in very severe weather placing a cloth over them at night. On the whole, the plants are apt to suffer more

from want of cleaning the foliage than from excess of cold or heat.

One other and very important point is as much light as possible in winter and spring for growing plants in windows. Much cannot be done in this direction, but still something may be done to make the most of what heat a clean window will give; and we are reminded of this by having had an inquiry as to whether a common window or a bow window would be the better for plants. Of course there can be no comparison of the amount of light; the bow window will throw in much more light than a common window—first, because the whole window stands out beyond the walls of the house; and secondly, because light comes streaming from three directions instead of one. Our common windows do not give so much light (being generally placed for architectural effect 6 or 8 inches inside of the wall), as they would do if placed almost flush with the outside wall, though that would give them an unfinished bare look when viewed from the outside. Even with windows placed in the usual way much may be done by keeping them clean, and the sides of the window or the walls of the opening as white-coloured as possible, and also having the walls inside of a light colour, so as to reflect the light. This brings us to what the inquiry about the bow window reminded us of, and which we had forgotten to mention. Some years ago a gentleman who had a small room at the top of his staircase, with a large window reaching almost to the ground, wished to turn it into a reading-room, and to grow there during the season some nice plants in baskets and vases. The plants did not thrive very well at any time, but they became especially dingy and sickly in winter. Want of light was the evil. The plants might almost as well have stood in a cellar. The bricks outside, up the sides of the window, over its top, and at its sill, were nearly green with slime and moss. The window itself had been daubed of a bluish colour, and the walls of the room were of a greenish hue, to suggest alike cheerfulness, and, we fear, fumes of arsenic when hot. All round the windows outside was made as white as fresh lime would make it, the glass was thoroughly cleaned, a thin white malin blind was used in summer, and the walls of the room were made of a whitish stone colour, lest a pure white should be too distressing to the eyes, and from that time the plants thrived as well as could be expected. The proprietor said, "Why, the room looks now as if it were all glass and light;" and the change from having so much reflected light was remarkable. We have understood that the walls and ceiling are whitened every autumn. Need we say that in all cases where there is little room and little light, increasing light in this manner will not only be good for the plants, but good for those who grow them? Excess of light, and heat with it in summer, is easily guarded against.

We should be as glad if this hint were more generally acted on, as we were pleased some time ago in a warm summer to find a number of workshops open to the roof, with the slates and tiles of the roof whitened outside with lime or chalk. On asking a workman the reason for such a practice, he replied, "Some of my mates read THE COTTAGE GARDENER, and from that they learned that the white roof would keep the shops cooler in this warm weather, and if it remained it would make us warmer in winter. It does keep us cool and comfortable now." The light colour outside reflected the heat and light, and prevented the slates absorbing the heat and making the space below like a furnace. The same white colour would greatly lessen the radiation of heat from the slates in winter, and, therefore, the place would be warmer. The light colour of the walls of a room reflects the light, and, therefore, increases the light in the confined space.

Mice must be carefully trapped and poisoned, or they will soon destroy the finest collections of Pinks and Carnations. Even the common mouse or barn mouse will do this, but the grass mouse is especially to be dreaded. If the plants are kept in a frame or pit, one of the most effectual remedies is to run a little tar outside at the ground line, and if a little oil be mixed with the tar, the latter will keep longer in a moist condition. In many places it is becoming a hard matter to keep mice from Crocuses, Tulips, and other roots in the ground. In growing some of these in pots last season, we were obliged to cover the pots with other pots of the same size, with a piece of brick or heavy tile over the hole in the upper pot. Even with such care there were not wanting cases in which mice had massed their forces, and with united efforts done what no single mouse could have effected—moved the covering placed over the hole of the upper pot, and left but relics of the bulbs and tubers in the pots.—R. F.

COVENT GARDEN MARKET.—DECEMBER 22.

PRICES remain unaltered, and a renewal of the former heavy and continuous supplies will prevent any advance. Good dessert fruit is somewhat scarce, Pines and Grapes being exceptions. The usual Christmas evergreens are abundant and meet with ready purchasers, from fifteen to twenty loads a-day being disposed of.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.	
Apples 1 sieve	2	0	to	8	0	Melons..... each	2	0	to 4	0
Apricots doz.	0	0	0	0	0	Nectarines doz.	0	0	0	0
Cherries lb.	0	0	0	0	0	Oranges 100	5	0	10	0
Chestnuts bush.	10	0	18	0	0	Peaches doz.	0	0	0	0
Currants 1 sieve	0	0	0	0	0	Pears (dessert) .. doz.	3	0	6	0
Black do.	0	0	0	0	0	kitchen doz.	2	0	4	0
Figs doz.	0	0	0	0	0	Pine Apples lb.	3	0	6	0
Filberts lb.	0	0	0	0	0	Plums 1 sieve	0	0	0	0
Cobs lb.	0	9	1	6	0	Quinces doz.	3	0	4	0
Gooseberries quart	0	0	0	0	0	Raspberries lb.	0	0	0	0
Grapes, Hothouse. lb.	4	0	8	0	0	Strawberries lb.	0	0	0	0
Lemons 100	5	0	10	0	0	Walnuts bush.	10	0	20	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Artichokes	each	0	8	to 0	0	Leeks	bunch	0	8	to 0	0
Asparagus .....	.....	0	0	0	0	Lettuce	per score	1	0	1	6
Beans, Broad	bushel	0	0	0	0	Mushrooms .....	.....	1	0	2	0
Scarlet Run.	1 sieve	0	0	0	0	Must. & Cress, punnet	0	2	0	0	0
Beet, Red.	doz.	2	0	3	0	Onions	per bushel	2	0	3	6
Broccoli	bundle	1	0	1	6	Parsley. doz. bunches	2	0	8	0	3
Brus. Sprouts 1/2 sieve	.....	2	0	3	0	Parsnips	doz.	0	9	1	8
Cabbage	doz.	1	0	2	0	Peas	per quart	0	0	0	0
Capicums	100	2	0	4	0	Potatoes	bushel	2	6	4	6
Carrots	bunch	0	4	0	6	Kidney	do.	3	0	4	6
Cauliflower	doz.	2	0	6	0	Radishes doz. bunches	0	6	1	0	0
Celery	bundle	1	0	2	0	Rhubarb	bundle	0	0	0	0
Cucumbers	each	0	9	1	0	Savoys	doz.	1	0	2	0
pickling	doz.	0	0	0	0	Sea-kale	basket	3	0	4	0
Endive	doz.	2	0	0	0	Shallots	lb.	0	8	0	0
Fennel	bunch	0	8	0	0	Spinach	bushel	2	0	3	0
Garlic	lb.	1	0	0	0	Tomatoes	per doz.	0	0	0	0
Herbs	bunch	0	8	0	0	Turnips	bunch	0	4	0	0
Horseradish	bundle	2	6	4	0	Vegetable Marrows ds.	0	0	0	0	0

TRADE CATALOGUES RECEIVED.

Sutton & Sons, Reading. — *Sutton's Amateur's Guide and Spring Catalogue for 1897.*

William Barron, Elvaston Nurseries, Borrowash, Derby. — *Select Catalogue of Ornamental Plants.*

TO CORRESPONDENTS.

“* We request that no one will write privately to the departmental writers of the “Journal of Horticulture, Cottage Gardener, and Country Gentleman.” By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

POTS FOR STRAWBERRY CULTURE.—“An Amateur” wishes to know where and at what cost per dozen he can obtain the pots recommended by “J. T. AND OTHERS,” at page 449.

SEEDS FOR AN ACRE OF KITCHEN GARDEN (Youngster).—It is quite true, as you observe, that Dr. Hogg states in “The Gardeners’ Year Book,” that five quarts of Peas are sufficient, and we endorse that statement if only a small family has to be supplied. On reference to Thompson’s “Gardener’s Assistant,” we find that he says twenty-four quarts are required; and McIntosh’s “Book of the Garden” says thirty-six quarts. If the whole acre were to be dibbled with Peas, we think the last-named quantity would be about sufficient for the purpose. Probably, as we do, Dr. Hogg considered that the acre would be partly occupied by Asparagus, Rhubarb, Sea-kale, and other permanent beds. We should like to know what some of our readers’ experience teaches on this point.

GARDENIA LEAVES (S. L.).—We could not discern any insect on the leaves, but one of them was very severely attacked by a parasitic fungus.

WARMING A SMALL CONSERVATORY (E. B. B.).—Either a gas stove with a pipe-flue to carry off the fumes, or Hays’s Constant Stove without a pipe-flue, is “the best and simplest manner of warming a small conservatory.”

EVERLASTINGS (F. A. D.).—The following plants have what are termed everlasting flowers:—*Anemula*.—*Acroclitum roseum*, rose pink; *Helichrysum bracteatum* and *macranthum*, which by their intermixture have produced many varieties with white, yellow, pink, and crimson flowers, as well as many intermediate shades of colour; *Rhodanthe Manglesii*, rose-coloured and yellow; and the varieties of *Xeranthemum annuum*. The above may all be grown out of doors, but the *Acroclitum* and *Rhodanthe* should be raised in gentle heat. *Helipterum Sandfordii*, orange yellow; *Waitsia aurea*, or *Morna nitida*, as it is also called, yellow;

Waitsia corymbosa, red; and *Waitsia grandiflora* are also handsome Everlastings, especially the last, which is new. They require to be sown in a moderate temperature in March, and the seedlings should be potted off, kept near the glass, and planted out in May. *Hardy Perennials*.—*Antennaria dioica*, pink; *margaritacea* and *tripinnervis*, white; *Ammonium alatum*, white; *Gnaphallium stachas* and *arenarium*, yellow. *Tender Annuals*.—*Gomphrenas* of various colours. *Greenhouse Plants*.—*Astelma eximium*, crimson; *Helichrysum argenteum*, white; *ericoides*, pink; *sesamoides* and *proliferum*, purple; and many more might be enumerated. The flowers of Everlastings should be gathered before they are quite expanded, and kept in a warm dry room.

VINE FOR GROUND VINERY (W. H. H. A.).—In your “wet, sunless climate of the west of Ireland,” we should try Miller’s Burgundy. If you obtain a well-rooted cane, and plant it in the ground vinery during February, disturbing the roots as little as may be, it ought to yield a few bunches late in the summer.

VINE-BORDER (C. Caterham).—As your subsoil is solid chalk, and the soil 8 feet deep, you will need no concrete at the bottom of the border.

ADMITTING AIR (F. Flitton).—The system you propose of having a cold-air chamber along the front of the house, with openings to the external air at each end, to be regulated at pleasure, and this air to be heated by the pipes before being admitted into the house, is very good; but then there is nothing new in the idea, and the chief objection to it is the additional expense. The proprietors of houses are much opposed to what will entail an increased expenditure of money. We notice that your air-gratings for this chamber are beneath the pipes, which is correct; but these gratings would require to be more numerous. The idea of having a grating at the back of the house, communicating by cross drains with this chamber, is also good; but one grating at the back would be of little use for the purpose of promoting circulation, and even numbers would be of no great effect unless the heating medium were enclosed, as some years ago we described in a simple Polmaise-heated large house at Messrs. Lane’s, Berkhamstead. The truth is, with pipes exposed, and placed in the front of the house, there will be a circulation of air in the house in spite of you, and just in proportion to the heat given, as the colder air will be drawn along the floor to be heated and made lighter by the pipes. For insuring heated fresh air we would prefer the air being heated in a chamber before being admitted, or having a pipe—say 4 or 6 inches in diameter, all the length of the house, pierced with small holes, the draught regulated from the outside, and then the air passing through these small holes close to the pipes would be presented to them more regularly than by two or three open gratings. Much is properly made of thus heating the fresh cold air before allowing it to enter among plants; but, after all, it is chiefly valuable when, for any purpose, high temperatures are required in winter. For all common purposes these terrible cold blasts in winter may be completely avoided under the ordinary modes of management, by giving no front air in cold weather, and only as much at the highest part of the roof as will make sure of the cold air entering being warmed and moistened before it reaches the plants. It is quite an error to suppose that with no means of heating front air, you must therefore open your front sashes in the coldest weather. In all early work the top air is the great point, and very little will not only change the atmosphere of the house, but promote a circulation as well; not but that in all cases where much heat is wanted in winter we would rather heat the air before admitting it if we could. We have no doubt that the large room will be efficiently heated and the air circulated by a furnace surrounded with a hollow wall, an opening by a grating to let the cool air into the hollow wall, and on the opposite side a grating placed higher to let the heated air escape. The circulation would be more perfect if the cold-air grating were as far as possible from the furnace. The plan being in light pencil marks we can make little of it. As to intentions, results are always more valuable than the best conceived ideas not carried out. We have no objection whatever to tubular fires if large enough. There used to be good samples of them made of cement, at Linton Park. As frequently stated, we place less stress than many on the mere form of a boiler. Setting and management are the chief points. One man will obtain much more heat and use less fuel than another, because the one does his work with thought and system, and the other leaves nearly everything to chance. One improvement of the saddle-back would be a stout three-inch pipe connecting the two sides of the boiler at the end farthest from the furnace door. The wagon boilers of Barwell, of Northampton, were so connected. One tap would then empty the boiler.

FRUIT TREES IN AN ORCHARD-HOUSE (An Amateur Subscriber).—Take up the Peach, Nectarine, Plum, and Pear trees, now in pots plunged out of doors, and all that you intend to fruit next season. Out off the roots through the pots, remove the surface soil, fresh dress with rich compost, and place the pots in your orchard-house, and the sooner the better. The plants in small pots may be fresh shifted into larger pots; but they will not do much good next season as respects fruiting. Use manure water weak, and the more kinds you use, so as to change the food, the better. For more directions obtain Pearson “On Orchard-houses,” which you can have from our office for twenty postage stamps.

PIPES FOR BOTTOM HEAT (A Subscriber).—You will do very little good with pipes for bottom heat unless these pipes are shut in, either in a chamber or covered over with clinkers, and then with something to set the pots in for propagating. Frequently a little fresh air admitted among the pipes tells very favourably on the bottom heat. The whole subject of propagating-beds has been frequently alluded to. Four four-inch pipes ought to give heat enough for a large bed; but then you would need top heat as well, or means of borrowing the bottom heat at will. If you tell us your proposed plan, and give us a section in mere outline, we may be able to advise you better.

FORCING VINES (H. W., Jersey).—If you were to commence forcing the old Vines this season in the beginning or middle of January, you may commence next year in the beginning or middle of December. There is no limit to the time. Even old Vines may be forced if the forcing is effected gradually. In course of time the Vines will acquire an early habit. The only circumstance that seems against you is what you say of the roots of the Vines being beyond reach—a matter of less consequence when the Vines are allowed to break and fruit naturally, but of more importance when forced. This will also be of more importance if the roots are outside instead of inside the house. In the first case the borders will require protecting in early forcing.

RASPBERRY (E. T.).—There is none better than the Red Antwerp. Any first-rate nurseryman can supply you.

MUSHROOM-BED (J. B. K.).—You made up your Mushroom-bed on the 16th of October, but you do not say when you sowed it. A bed generally takes from six to seven or eight weeks after sowing, and therefore we would not hurry the matter at all. Anyon say the soil is rather damp, we would not like to water it, even if the manure below the bed is rather dry; but if too dry you must contrive to make holes, so as to reach the manure without much wetting the bed. If the manure is too dry we almost fear the bed may have been too hot; but as no time is yet lost we cannot say that is the case. You will find many hints in "Doings of the Last Week" in late Numbers.

BORDER BY A FLUE (A Subscriber for Many Years Past).—In addition to what you propose we would modify what is said at page 461, so as to have 4 inches of rough open material and 2 inches of finer gravel over the flue, for the Cucumbers; and if that is roughly concreted all the better; on that place from 15 to 18 inches of soil. It will be advisable to have upright drain-tiles to pass water into the rubble at the sides of the flue. The same plan would answer for the propagating part; but your proposed plan would be better, only we would have the cement a little above the top of the flue, and 8 inches would be enough for water. Tan or sand will be best for plunging the pots in.

SELECT ERICAS (A Subscriber, Wexford).—*Gemmifera elegans*, *Eximia superba*, *Ventricosa grandiflora*, *Ventricosa superba*, *Tricolor Wilsoni*, *Tricolor superba*, *Devoniana*, *Shannoniana*, *Turnbulli*, *Scabruscula*, *Massoni major*, *Sprengelli*; *McNabiana superba*, *Holfordiana*, *Ferruginea major*, *Depressa multiflora*, *Oavendishii*, *Colorans verna*, *Amabilis*, and *Newtoniana*.

COTTON SEED (Mississippi).—If you will send us a stamped directed envelope we will tell you the address of a gentleman willing to aid you.

FRUIT TREES FOR NORTH WALL (A Subscriber).—*Morello Cherries* will best succeed there. We never knew an Apple-tree hedge. These are many varieties that can be grown as espaliers.

PAINTING HOT-WATER PIPES (A Subscriber).—The best composition that we know of is lamp black, brought to the consistency of putty by mixing it with boiled linseed oil. The pipes should be made quite hot and then be coated over with the paint, keeping them hot until it becomes dry, when the smell will pass away; but if the pipes are coated over when cold, however well the paint dries, when they become hot an offensive and injurious vapour will be given off. Two coats are necessary; the second should be put on when the first becomes dry. The paint should be well brushed into every part of the pipes. It is desirable that the composition be black, that being the best colour for the radiation of heat.

FIRE HEAT IN A VINEY (J. F.).—The Vines would be injured by fire heat if you were to produce a temperature much too warm for them whilst at rest; but your house being for Vines and plants, and not for Vines exclusively, it may be necessary to light a fire during mild weather to dry up damp and cause a circulation of air; however, that will do the Vines no great harm if the temperature be kept down as much as possible by admitting plenty of air. To dispel damp the fire should be used by day, and allowed to go out at night. During frosty weather fire heat will be necessary to keep frost out and secure the safety of the plants, and during severe frost fire by day may be needed, but of this you will be the best able to judge when it is necessary. So long as you can keep off frost and damp avoid having a fire, as the plants which you name only require protection from frost. The temperature from fire heat should not exceed 45°, and the nearer it is kept to 40° the better the Vines will fare. The Camellia will flower without fire heat.

NAMES OF FAUR (G. S.).—We believe your Fear is the true Knight's Monarch. The shape of the false one is very different. Is your soil dry and sandy? It likes a good loam.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Six Days ending December 21st.

DATE.	BAROMETER.		THERMOMETER.				W. ind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun... 16	29.892	29.623	50	25	46½	45	S.W.	.00	Fine; overcast throughout; slight frost.
Mon... 17	30.186	30.142	52	42	45	44	S.W.	.01	Hazy; slight rain; very fine at night.
Tues. . 18	30.219	30.132	58	40	46	45	S.W.	.00	Hazy clouds; densely clouded; very fine.
Wed. . 19	30.284	30.215	56	30	48	48	N.W.	.00	Exceedingly fine; very mild for the period of the year.
Thurs. 20	30.367	30.297	39	29	45	45	W.	.00	Foggy and foggy; hazy; foggy; very slight frost.
Fri. . . 21	30.288	30.279	40	26	45	45	W.	.00	Hazy throughout; fine at night, slight frost.
Sat. . .									
Mean	30.206	30.117	48.88	30.88	45.91	44.50	..	0.01	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

GAME FOWLS.

WITH reference to a good article on Game fowls, signed "YORKSHIRE," in your paper of the 27th ult., in which he mentions my remarks, I think that "breeding in-and-in" too much is bad; but the indiscriminate crossing of different colours is, of course, much worse than breeding good fowls in-and-in. A good cross of the same colour, equally good or superior in quality, every ten years, is the best way of breeding. The cross, though of the same colour, should be as far removed in blood as possible, and the crossing should be with a good cock, and not with hens, as a rule.

With regard to tails, I must say that I think the "whip-tailed" birds are of meaner appearance, and also less spirited, than those with the tail I described. Cock-fighters, I think, generally prefer the "short cocked-tailed birds." I have always noticed in my broods, that the cocked-tailed cock chickens were the most spirited, and the master chickens. Cocked-tailed birds always carry their tails "well up."

If "YORKSHIRE" has ever observed his Game hens fighting, he will have seen that when angry and elated, or inflated with passion, they always erect and fan their tails, and lower their wings, so as to shield their thighs, and then advance to fight. This is their most spirited attitude, and the same rule applies to the cocks, as when crowing, or just before crowing, cocks erect their necks and tails, and fan the latter, lowering their wings to the thighs at the same time. As the sound of the crowing issues from them, they lower the tail a little, and erect it again. This is also the cocks' most spirited attitude; but when levelling their necks to fight, the tail goes down, of course, and the wings close up close. I infer from this that the erect or "well up," and fanned tail, must show most spirit. When beaten, both cocks and hens close and droop their tails, and carry their wings high up. This is their least spirited attitude. Whip-tailed birds are generally too narrow in the shoulders, I think, and are often long and narrow in body, which the cocked-tailed birds are not.

Spurred hens have, undoubtedly, the most male blood, are

always the hardest-fleshed, and breed the best cocks, if well shaped. Spurs are not confined to the old hens, young hens often having them. "YORKSHIRE's" description of the Dark Black-breasted Red is good; it is the same as that in "Sketchley's Cooker," and is quoted in Boswell's "Poultry Book," which I have by me—Yellow Duckwings from the same.

The late Earl of Mexborough was, I have heard, one of the best breeders of Game fowls in Yorkshire, but I cannot consider the Yellow-legged Duckwing as a first-rate bird, either in spirit or hardness. I think that the wheaten-coloured backs and shoulders named, must have come from a cross of the Cinnamon Black-breasted Reds, or Ginger Reds, with the Yellow Birchens. Brown Reds are certainly far superior in fighting qualities to the willow-legged Black-breasted Reds in all respects. Leggy Game fowls are very bad, so are the too-short-legged breeds of Game fowls.

I think that for exhibition Game "stags" should be from 4½ lbs. to 5½ lbs., and cocks from 4½ lbs. to 5½ lbs., though 4½ lbs. is the best fighting weight for full-grown cocks.

I have seen some excellent willow-legged Duckwings at exhibitions, especially from the midland counties, superior to the Black Reds. Exhibiting the same fowls too often in the same season is, of course, very injurious both to their health and appearance, and injures their breeding, as "YORKSHIRE" justly observes.

I think that Mr. Thomas Statter, of Whitefield, or Pilkington, near Manchester, has exhibited the very best Brown Reds ever yet seen, one of his cocks sold for fifteen guineas the other day, and two Brown Red stags of Mr. Burgess's, of Whitechurch, Salep, sold for £25 the pair. Mr. Brierley, of Middleton, Lancashire, exhibits the best Black-breasted Reds, and Sir St. George Goss, the next best, I think, and also good Duckwings. Mr. Gamon, of Thornton-le-Moors, Chester, had lately first-rate Cheshire Piles.—NEWMARKET.

WARNING.

LAST spring I purchased from a dealer in the "Black Country," a Partridge Coochin cock. He appeared to be a very superior specimen of his kind, and one of our most noted

keepers of Cochins afterwards saw him, and expressed an opinion respecting him identical with my own, remarking that his only defect was a slight stain in the breast. But what has the moult revealed? The whole of the fluff on his legs and thighs, instead of being, as before, perfectly black, consists now throughout of feathers of a reddish buff colour pencilled with black. You will agree with me that it took something more than the native smoke of the region aforesaid to dye the bird to the standard colour, and that this is one more among the many revelations of shameful dishonesty which have been from time to time brought to light in your pages as a warning to others.—CLERICUS.

POULTRY SHOW NEGLECTS.

Exhibitors of poultry have, I fear, frequent cause of complaint against managers of shows. May I ask you to open your columns to a grievance?

The Secretary of the Newport Poultry Show offers to send a catalogue of entries and prizes to any one on receipt of eight stamps. I forwarded the stamps on Monday, and Thursday's post, even, has brought no catalogue. The Show was only open Tuesday and Wednesday, and my birds will possibly return home this evening, and the Secretary has not the courtesy to inform me, in return for my eight stamps, whether I take any prizes or not.

May I suggest, that exhibitors would be glad if some liberal-minded Secretary would announce in his schedule that every prizetaker (or if really liberal, every exhibitor), should receive a catalogue by the first post after they are printed, so as to initiate the movement.

I cannot ask for more space, or I would call attention to the illiberality of the managers of some of the poultry shows in refusing to exhibitors free tickets of admission.—AN EXHIBITOR.

NEW SHOREHAM POULTRY SHOW.

It would have been more courteous if "EXHIBITOR" (page 487), had applied to me to have ascertained the reason of the delay in receiving his fowls home. I can assure him they all left the Shoreham station on the Friday, most of them before twelve o'clock, and he must blame the railway officials and not us for their detention. There can be no wonder at the birds having been in a bad state if they were three days on the road, with nothing to eat all the time. I enclose for your perusal letters which I have received from exhibitors, all at a distance, expressing their thanks for the care and attention their fowls had evidently received, and I have also upwards of sixty letters from exhibitors, acknowledging the receipt of prizes, &c., and not a single complaint is contained in one of them. I can only say that there was an unlimited supply of food, and that Mr. Shockley, who superintended and had the sole control and management of the birds, expressed his satisfaction, and said that at no show which he had ever attended was there a more liberal supply of food at his command.—CHARLES CORK, *Hon. Sec.*

[The letters enclosed by Mr. Cork were from Essex, Warwickshire, Suffolk, Somerset, and elsewhere; all expressive of satisfaction.—EDS.]

LEEDS POULTRY SHOW.

(From a Correspondent.)

The seventh annual Show of the Leeds Smithfield Club was held in a splendid new building in the Cattle Market. Owing to the restrictions of the Cattle Plague Act the Show was this year confined to Pigs, Poultry, Pigeons, and Rabbits. The building is very suitable for a show of this kind, being extensive and only one storey in height, light entering from the roof; the rows of the pens were neatly arranged, the paths between them were very wide, and the whole was both well lighted and warmed with gas.

In comparing the number of entries in the present year in the poultry department with those made in 1864 and 1865, we find them as follows:—

	Poultry.	Pigeons.	Rabbits.
1864	416	151	None.
1865	702	158	49
1866	497	181	40

Although the prizes were in every respect much higher this year we find a great falling off in the number of entries in the poultry department in comparison with last year's Show; but in Pigeons we find a slight increase, whilst Rabbits, again, point downwards. Next

comes the quality, which from year to year is a fine point to touch upon; but several classes had improved, whilst others were not so good as could be desired. Among the former we find Hamburgs and Black Bantams, and among the latter the classes for Game in particular.

The 11th was fine and frosty, and the attendance meagre in the extreme; but after six o'clock the visitors seemed to be more numerous and cheerful; but the impression upon the writer was that it would be a failure as regards money matters, and every one seemed to participate in it whenever the balance-sheet was brought in question.

Class 11, for a single Game cock of any description, comprised sixteen entries. The first prize was won by a Black Red, belonging to Mr. Boyes, of Beverley, of fair quality, but rather striped in the hackle, or, as Yorkshire men term it, "rawkey." Mr. Aykroyd was second with a Black Red of good colour, whilst Mr. Hodgson was third with a Brown Red, rather overgrown and weak, although we fancy he will turn out good with a little time and proper care. In Black-breasted and other Reds Mr. Aykroyd again took a very prominent position, winning the cup for the best pen of Game. Mr. Pashley was second, also with Black Reds; the cock was a really good bird, and had he been well supported with a hen most likely he would have won the cup, as the hen in this pen was very coarse, particularly in the head. This class was restricted to old birds, and contained thirteen entries. Next came the class for Black-breasted and other Red chickens, and again Mr. Aykroyd won, this time with Brown Reds, taking the first prize with a good cockerel, very evenly marked on the breast. This class consisted of twenty-seven entries, but no less than five pens were vacant. Classes 14, 15, 16, and 17 were for Whites and Piles, and any other variety in the order named, and consisted of four, six, eight, and twelve entries respectively. Messrs. Butcher, Pashley, Boyes, and Firth were the principal winners, with birds of fair average quality; but the most noteworthy bird was the third-prize Duckwing, with such a tail as the keenest "NEWMARKET" critic, or the best pencil of a Harrison Weir would sketch—such a tail as would have pleased the most fastidious Dorking-fancier; and the writer's opinion is that a heavy, broad-feathered, bob-tail is one of the greatest faults a Game bird can be possessed of, and cannot stand the slightest chance of success against a neat and close switch tail, such as is generally met with in such strains of Game as those of Messrs. Williams, Aykroyd, and other Game exhibitors too numerous to mention.

Classes 18 and 19 represented the Dorking section, and here Mr. Beldon was first in the class for old birds with a really splendid cock and two hens of fair average merit. This pen won the cup as the best pen of Dorkings, carried their triumph still higher by taking off the silver cup for the best pen of poultry in the Exhibition, and finally ended their Leeds triumph by changing owners for £20. Mr. Beldon seems to be quite at home at Leeds, as last year he was equally successful in winning a similar prize with a pen of Golden Poldas. We must not forget Mr. Albert Fenton's first-prize Dorking chickens.

Classes 20 and 21 were for *Spaniels*, old and young respectively, and consisted of six and thirteen entries in both classes. Mr. Beldon took the first prize and cup, and Messrs. Thresh, Teebey, and Cannan the other prizes.

Classes 22, 23, 24, and 25 were for *Cochins*, and Mr. Fenton was successful in taking all four first prizes, besides two second and an equal number of third prizes, and consequently the cup for the best pen of Cochins, which fell to the Buffs; but had the Judges given the cup to their darker-coloured relatives, Mr. Fenton would have been none the less gratified with the honour. Certainly eight prizes in four classes, with thirty-seven entries, deserved the cup, even had they not contained all the first prizes.

Now for Mr. Beldon and the *Hamburgs*, which consisted of ten classes, ranging from 26 to 35 inclusive, and in the whole of the ten classes Mr. Beldon was first. The cup for the best pen of Hamburgs fell to his Silver-pencilled, and they well deserved it; but such was the diversity of opinion, that had Mr. Henry Pickles been so successful as to win the first prize in this class, it would not have been disgraced. The opinions of adepts were freely given *pro* and *con*. with respect to the first and second-prize birds in this class; some were in favour of Mr. Beldon's birds, but the writer believes that the best judges were for the pen of Mr. Pickles. His pullets were a perfect match, and both cockerels were slightly faulty in their combs, and this point made it a neck-and-neck race between two really good pens, backed by every other competing pen being highly commended. On the whole Hamburgs were well and worthily represented.

Polands occupied Classes 36 and 37, and again Mr. Beldon won in both classes with Silver; but the best Poland cock in these classes was that exhibited by Mrs. Garnall in Class 36. His crest was really something wonderful, and although mated with a bad hen he gained from the Judges a high commendation. Several hens in these classes were troubled with crooked tails, and particularly one of the first-prize hens.

In the class for farmyard crosses, or any other variety, *Brahmas*, *Sultans*, and *Crève Coeurs*, won in the order named.

The next class was for Black Bantams, and they were good—so good that Birmingham first-prize birds could not gain the Judges' notice. Game Bantams occupied Class 41, and consisted of twenty-nine entries, and Master G. Croeland won all the three prizes, including the cup for the best pen of Bantams in the Show; he took the first and second prizes with Black Reds, and the third fell to his famous Duckwings. This class contained several first-rate birds, and Master Croeland must

feel proud of his Black Rod pullets, as most decidedly they were of great service to him. Among Bantam varieties was a pen of Buff Cochins which took the first prize, but these do not seem to advance much, and will require several more years of anxious care and attention before they are sufficiently hardy to bear the fatigues of winter and exhibition, as to all present and former appearances they seem troubled with idiocy, and are not yet suitable for the districts in which they have appeared as competitors for poultry honours. They are both delicate, difficult to breed, and as nearly devoid of sense as can possibly be imagined, but beautiful to the eye when once in good condition.

Rouen Ducks consisted of eight pens, and, if we except the first and second prize pens, were bad. Aylesburys were still worse, the second-prize had yellow beaks and were not too heavy, whilst the third-prize pen weighed to all appearance not more than 15 lbs. for the three. The Ducks exhibited in the class for any variety were good, and so were those in the 80s. selling class.

Now with regard to the many disqualifications which were posted up for trimming, one case must not be allowed to pass—it was the Black Hamburg cock with one sickle feather tied on so clumsily that he could not keep it straight with his other tail feathers, and Mr. William Worsley, of Middleton, ought to feel ashamed of his ownership. This was the grossest case of disqualification for trimming in the whole Show, and deserves to be mentioned, as it was a good bird and shamefully spoiled.

In Pigeons Mr. Frederick Crossley won the cup with Powters.

The Judges, of whom the names will be found at the end of the prize list published last week, gave general satisfaction, although one or two cases of grumbling were heard.

NEWPORT (MONMOUTH) POULTRY EXHIBITION.

It cannot be denied that although on some former occasions the entries for the Newport Show were, perhaps, more numerous, the quality of the birds shown this year has never been surpassed. The Managers of this Show, always desirous to secure public favour, do all they can to accommodate their prize schedule to the wishes of exhibitors, and thus year by year the Newport Show increases in the general estimation of poultry fanciers; and a glimpse over the prize list will prove to our readers that most of our noted breeders of exhibition poultry joined in the competition. That well-known breeder, Mr. J. H. Williams, of Springbank, Welshpool, was among the most successful exhibitors of *Game* fowls, and it is but justice to remark, that this gentleman's cup-birds (Duckwings) were shown not only true to feather, but in most unexceptionable condition. Mr. Rodbard's silver-cup *Spanish* were worthy representatives of his celebrated strain, and the competition was here by no means a small one. *Dorkings* as a class were good, and the third-prize (White), although competing with *Dorkings* of all colours, left little to be desired, though strange to say, in these poultry-loving days, they were entered at a guinea the pen of three birds. In *Cochins*, Mr. Rodbard's well-known Partridge-coloured birds were the cup pen. The *Brahmas* were good; and in *Hamburgs* the Golden-spangled, Silver-spangled, and the Silver-pencilled were the most meritorious. The class for *Polands* (any variety), brought out some of the best Silver-spangled seen for some time past. Some very good Silver-laced *Sebrights* were also shown.

The Aylesbury Ducks were as good as possible, but some of the very best of the Rouens arrived too late for competition. Mr. Fowler, of Aylesbury, took the first place for *Geese*, and it is not too much to say that every pen of *Turkeys* was most commendable.

A "Selling Class" of fifty-three pens brought out many excellent specimens; Mr. Rogers, of Walsall, winning with a pen of Black *Spanish*, that looked like a good investment, even in these troublesome times, at 80s.

The "sweeps" for single cocks were scarcely equal to our wishes, and it seems that generally these classes cease to be public favourites, simply on account of the great uncertainty as to the number of entries that will be attained. Even a single entry of a really good bird caused its owner to lose 1s. by his attempt in this class, though winning.

The classes for Pigeons were many of them very good, though somewhat more limited than heretofore as to numbers. A very fine pair of White Powters were the winners of the first prize, and a scarcely less showy pen of Reds were second to them. Mr. Percival, of the Oaklands, Birmingham, was the winner of both the Tumbler prizes with very good birds. In Fantails, White were first, and a pen of very good Red second, both being the property of Mr. Yardley. In the Any other variety of Pigeons a pair of Spots were first, the second prize being given to a very good pair of Blue Runts, shown by the National Poultry Company, who also exhibited some capital varieties of French fowls.

The weather was exceedingly fine for this season of the year, and the attendance of nobility and gentry quite equal to that of former years.

GAME (Black or Brown-breasted Reds).—First, J. H. Williams, Welshpool. Second, S. Dupe, Bath. Highly Commended, W. Bradley, Worcester.

GAME (Duckwings or other Greys and Blues).—First and Cup, J. H. Williams. Second, W. Dunning, Newport, Salop.

GAME (Any other variety).—First, T. Thomas. Second, T. Fletcher, Great Malvern. Commended, J. W. Jones; T. Fletcher.

SPANISH.—First and Cup, J. R. Rodbard, Wington, Bristol. Second, T. Ace, Ystalyfera, Swansea. Highly Commended, G. Lamb, Compton; A. Heath, Calne. Commended, Mrs. J. Drummond, Boyne Hill, Maidenhead.

DORKINGS (Coloured).—First and Cup, J. Logan, Penworn, Nantylaw. Second, C. Lyne. Third, H. J. Evans, Cardiff. Highly Commended, R. H. Nicholas, Malpas; National Poultry Company, Bromley, Kent; W. H. Peasey, Chelworth, Tetbury; Hon. F. C. Morgan, Bapera Castle. Commended, Mrs. E. Herbert, Llansantffraid.

COCHIN-CHINA (Coloured).—First and Cup, J. R. Rodbard. Second, Miss J. Milward, Newton St. Loe, Bristol. Highly Commended, J. Stephens, Walsall.

COCHIN-CHINA (White).—Prize, J. Gardiner, Bristol.

BRAMA FOOTRA.—First, J. K. Fowler, Aylesbury. Second, Lord Tredgar. Commended, H. Stephenson, Oxford; A. H. Drummond, Maidenhead Thicket, Berks.

HAMBURGERS (Gold-pencilled).—First, R. H. Nicholas. Second, C. Lyne. Commended, H. Pickles, Jun. Wokingham.

HAMBURGERS (Silver-pencilled).—First, J. Holland, Worcester. Second, H. Pickles, Jun. Highly Commended, Mr. Matthews, Tredunnoch; J. Logan. Commended, T. J. Harrison, Kendal.

HAMBURGERS (Gold-spangled).—First and Cup, H. Pickles, Jun. Second, T. Fletcher. Highly Commended, S. & R. Ashton, Mottram; T. Fletcher; A. K. Wood, Castle Dorrington, near Derby.

HAMBURGERS (Silver-spangled).—First, A. K. Wood. Second, J. Fielding, Newchurch, near Manchester. Highly Commended, N. Barts, Plymouth; J. Kilvert, Ludlow. Commended, Hon. F. C. Morgan; National Poultry Company; T. Fletcher.

POLANDS (Any variety).—First, J. Percival, Harborne, Birmingham. Second, Mrs. Blay, Worcester. Highly Commended, J. Hinton, Hinton, near Bath.

CRÈVE CŒUR, LA FÊCHE, OR HOUDANS.—First and Second, National Poultry Company (La Fêche, Houdans). Third, Col. Stuart Wortley, London. Highly Commended, Col. Stuart Wortley; National Poultry Company (Crève Cœur).

BANTAMS (Game).—First and Cup, T. Davies, Newport. Second, W. Bradley, Worcester. Commended, J. K. Fowler.

BANTAMS (Black or White, clean-legged).—First, E. Cambridge, Bristol. Second, T. Davies. Highly Commended, E. Cambridge.

BANTAMS (Any other variety).—First, S. & R. Ashton (Silver-laced Sebright). Second, T. Davies (Silver-laced Sebright).

ANY OTHER DISTINCT BREED.—First, Miss M. E. Lamb, Wolverhampton (Negroes). Second and Third, R. H. Nicholas. Fourth, National Poultry Company (Gueldres). Fifth, J. Hinton, Hinton, near Bath (Malays). Highly Commended, Mrs. Blay, Worcester (Andalusians); Ashton and Booth, Broadbottom, Mottram (Black Hamburgs). Commended, R. H. Nicholas; J. M. Tolley, Worcester (Silkies).

GUINEA FOWLS.—First, R. H. Nicholas. Second, Hon. F. C. Morgan. Commended, R. H. Nicholas; Mrs. Blay.

DUCKS (Aylesbury).—First and Second, J. K. Fowler. Third, J. Logan. Highly Commended, Mrs. Llewellyn; H. J. Evans, Cardiff; J. Logan; Hon. F. C. Morgan.

DUCKS (Rouen).—First, J. Logan. Second, J. K. Fowler. Third, Mrs. Matthews, Tredunnoch.

GESE.—First, J. K. Fowler. Second, Mrs. Matthews. Third, J. Logan.

TURKEYS.—First, J. Logan. Second, Miss J. Milward. Third, H. J. Evans. Highly Commended, Lord Tredgar; Mrs. Llewellyn, Court Coleman, Bridgend; Hon. F. C. Morgan; E. Everett, Monmouth; Mrs. Horlock, Cheltenham.

SELLING CLASS.—First, T. Rogers, Wallhouse. Second, National Poultry Company (Crève Cœur). Third, E. Shaw, Plas Wilmot, Oswestry. Highly Commended, J. Logan (Silver-pencilled Hamburgs); J. Gardiner (White Cochins). Commended, J. Logan; Mrs. E. Herbert; T. Fletcher; T. Davies (Bantams); Mrs. E. Everett; C. Harris, Maindee Park, Newport (Brahmas); R. H. Nicholas (Sebright Bantams, Dorkings, and Silver-pencilled Hamburgs); Miss J. Milward (Indian Ducks).

EXTRA STOCK.—Highly Commended, Hon. F. C. Morgan (White Peruvian Musk Ducks).

SWEEPSTAKE FOR SINGLE COCK.

SPANISH.—Prize, T. Ace. Highly Commended, G. Lamb.

DORKING.—Prize, Mrs. Matthews.

GAME.—Prize, B. Dupe, Everceech, Bath. Commended, G. S. Sainsbury, Devizes; J. H. Williams.

COCHIN-CHINA.—Prize, National Poultry Company. Commended, J. Butler, Ystalyfera.

GAME BANTAM.—Prize, J. M. Tolley. Commended, E. C. Phillips, Vermvyach, near Brecon; J. Percival.

ANY OTHER VARIETY.—Prize, T. Fletcher.

PIGEONS.

CARRIERS.—First and Second, H. Yardley, Birmingham.

POWTERS.—First, H. Yardley. Second, A. Heath, Calne, Wilts.

TUMBLERS.—First and Second, J. Percival, Birmingham. Highly Commended, J. Beeston, Jun., Machen; H. Yardley.

FANTAILS.—First and Second, H. Yardley. Highly Commended, Miss J. Milward.

ANY OTHER VARIETY.—First, H. Yardley (Spots). Second, National Poultry Company (Black Runts). Third, A. Middleton, Newport, Monmouthshire (Black Magpies). Highly Commended, C. D. Phillips (Arch-angles). Commended, H. Yardley (Black Magpies).

Edward Hewitt, Esq., of Sparkbrook, Birmingham, was the Arbitrator.

YORK EXHIBITION OF POULTRY, &c.

(From a Correspondent.)

THE Yorkshire Society's annual Exhibition, of which the prize list was published last week, was this year attended with unusual success. The poultry classes were well represented from the yards of many leading exhibitors. *Dorkings* headed the list, and comprised many birds of great merit. Mr. Pease's pen in adults were immediately claimed at the low price put on them. We particularly noticed some pens that contained individually excellent specimens, but not matched as an exhibition pen. In several instances coloured birds and Silver-

Greys were shown together, and consequently had to be passed over by the Judges, although had they been otherwise matched they might have occupied a different position in the prize list. *Spanish* were not numerous, but contained some first-rate pens of adult and young birds. In the former Mr. Beldon stood pre-eminent, the two hens being especially worthy of notice. *Cochins* as a class were not up to the mark; the prize-winners were, however, good specimens. *Hamburgh, Game*, and the other classes were well filled, and of average merit, and we noticed before the close of the Show several pens had changed hands. In the class for Any other variety Mr. Thompson would have been undoubtedly first with a fine pen of Crève Coeur had a pair of birds been shown instead of three, Mr. Hustler's Houdans taking first honours.

Pigeons were numerous and particularly good. The much-coveted cup, value £5, given by the Pigeon-fanciers of York to the most successful exhibitor, brought into competition many of the finest specimens in the classes. Mr. Thackray proved the successful competitor, closely pressed by Mr. Hawley, to whom was awarded the extra prize of £1. Carriers were only an indifferent class, the first-prize cock being a bird almost devoid of wattle, though long in face and rather good in style. In hens, Mr. Hawley's first-prize bird we considered the best Carrier in the Show. Pouters were excellent. Mr. Thackray's first-prize Blue cock and hen were remarkable alike for length of feather and limb, the two birds measuring at least 40 inches. Tumblers and Fantails were particularly good; but, perhaps, the most meritorious class in the Exhibition was that for Barbs, Mr. Gell, of York, taking both prizes. This gentleman exhibited four pens, and we do not hesitate to say, that no exhibitor in this class could send such a magnificent lot of birds. Mr. Thackray's highly-commended pen contained the cock which has been so frequently a successful prize-winner in other hands. The old champion is now past his best, and was shown with only an indifferent hen. Jacobins were good, especially Mr. Royd's first-prize Blacks. Turbits numbered twenty-six entries, and we must confess we cannot see that the Judges in this class came to a correct decision in their awards. A pair of Silvers, bred in colour and small in frill, took the first honours. Mr. Thackray's Yellows and Mr. Hawley's Reds were in our opinion a very near approach to the standard of excellence. Owls were not numerous, but comprised some first-rate specimens; and in Trumpeters the competition was somewhat severe. The second-prize birds, a pair of fine Mottles, were undoubtedly the best. The first-prize Blacks were not even in crest and poor in colour. The Black Mottles being two cocks, first-rate birds, were passed without notice. The class for "Any other variety," brought together a large entry of very superior birds, Messrs. Thackray and Hawley being first and second, and the National Poultry Company were highly commended, especially for Runts and German Ice.

Two silver medals were awarded for the best pair of Pouters and Barbs bred in 1886, the former given by Mr. W. Massey and the latter by the Society. In Pouters, Mr. Hawley was first, and we noticed a pair of young Blues, bred and exhibited by Mr. Wilson, of York, well and evenly matched, and altogether a very promising pair. The medal for young Barbs was awarded to Mr. E. M. Royds. This pair of birds were so highly dressed in the eye that at the close of the Show they were all but blind, and we fear the owner will have cause to regret using such means on otherwise a promising pair. More than one pair in this class were certainly nearer two years old than birds of the present season.

Amongst other attractions at the Exhibition was Mr. Schröder's patent incubator, exhibited under the care of Mr. Massey, and many connoisseurs in the art of egg-hatching expressed their approbation of it as a most useful invention.

In conclusion we may congratulate the Committee on the good management of the Exhibition throughout; every care and attention was paid to the valuable collection of birds entrusted to their care, and we have no doubt exhibitors will be satisfied with the result.

ANOTHER correspondent says that the first and second-prize Turkeys had private marks—namely, a red band and a white band.

NANTWICH POULTRY SHOW.

I SEE in your issue of the 4th inst. a complaint respecting the length of time poultry are likely to be kept at the Nantwich Show. Your correspondent mentions Tuesday as the day of their being sent off. He is labouring under a mistake. All poultry received by rail are to be sent from the Hall on the Monday morning. Saturday, the second day of showing, is our New Market, and to close early in the day (which we should have to do if the poultry had to be returned that evening), would be to diminish our receipts very much, and this we are not in a position to bear. It would save us much trouble if we could so send them. We tried it one year, but the results were such as to bring us to our present decision—viz., to keep the birds till Monday morning. The complaint of their being deprived of soft food will not apply to us. We give them both soft food and steeped grain, and the birds have every attention. On the Sunday they will be quite private; one or two of the Com-

mittee, and the feeder by turn being with them. As our next Show is on the 8th and 9th of February, 1887, Christmas-day will not interfere with the arrangements.—E. H. RHODES, Sec.

THE prize schedule of the Nantwich Poultry Show, fixed to take place on the 8th and 9th of February next, independently of a very liberal list of prizes, limited exclusively to residents within a circle of thirteen miles of Nantwich, offers three valuable silver cups respectively to the best Buff Cochins cockerel and pullet, the best pair of Buff Cochins pullets, and the best Game cock and hen, of any colour. Additional second and third prizes will also be given in this competition, though these prizes are open to all comers. The Committee are well known among exhibitors for the great care taken of the specimens whilst under their management. Messrs. Hewitt and Teebay are appointed as the Arbitrators.

NORTH BRITISH COLUMBIAN SOCIETY'S SHOW.

THE eighth annual Exhibition of Fancy Pigeons, was held in the Trades' Hall, Glassford Street, Glasgow, on the 20th and 21st inst.

The following is the prize list:—

EXTRA PRIZES.

Members' Challenge Cup, presented by the Society to the most successful exhibitor in 1886, 87, and 88.—Gained in 1886 by James Montgomery, Belfast.

An Oil-painted Portrait of Short-faced Almond Tumblers.—F. T. Wiltshire, Croydon.

Silver medal, presented by A. Pinto Leite, Esq., for the best Powder Cock.—J. Montgomery.

Silver Medal, presented by J. Muir, Esq., for the best pair of Black Pied Pouters, bred in 1886.—First, J. Montgomery. Second, D. Gordon, Glasgow. Very Highly Commended, J. Montgomery. Highly Commended, J. Wallace, Glasgow. Commended, G. Ure, Dundee.

Silver medal, presented by M. Sanderson, Esq., for the best pair of White Pouters, bred in 1886.—First, J. Grant, Corstorphine. Second, G. Ure. Very Highly Commended, J. Montgomery. Highly Commended, A. Heath, Calne. Commended, T. Short, Glasgow.

Silver medal, presented by John Geddes, jun., Esq., for the best pair of Blue Pied Pouters, bred in 1886.—First, J. Montgomery. Second, G. Ure. Very Highly Commended, M. Stuart, Glasgow. Highly Commended, J. Dunoch, Edinburgh. Commended, J. Porteous, Edinburgh.

Silver medal, presented by George Maclean, Esq., for the best pair of Red Pied Pouters, bred in 1886.—First, G. Ure. Second, J. Montgomery. Very Highly Commended, J. Montgomery. Highly Commended, G. Ure. Commended, A. Wright, Edinburgh.

Silver medal, presented by Matthew Stuart, Esq., for the best pair of Yellow Pied Pouters, bred in 1886.—First, G. Ure. Second, J. Montgomery. Very Highly Commended and Highly Commended, G. Ure. Commended, J. Montgomery.

Silver medal, presented by James Huie, Esq., for the best pair of Mealy Pied Barred Pouters, bred in 1886.—First, W. Lightbody, Glasgow. Second, M. Sanderson, Edinburgh. Very Highly Commended, M. Stuart. Highly Commended, J. Wallace.

Silver medal or £2 2s., presented by a Friend, for the best pair of Carriers (Black and Dun excepted), bred in 1886.—First, J. C. Ord, Pimlico, London. Second, T. Colley, Sheffield.

Silver medal or £2 2s., presented by Frederick Elsie, Esq., for the best pair of Short-faced Almonds, bred in 1886.—First, M. Stuart. Second, J. Ford, Monkwell Street, London.

Silver medal or £2 2s., presented by Joseph Frame, Esq., for the best pair of Barbs, bred in 1886.—First, J. H. Frame, Carlisle. Second, C. W. Brown, Westwood. Third, J. Montgomery. Highly Commended and Commended, H. M. Maclure, Manchester.

Silver cup, value £3 3s., presented by J. R. Robinson, Esq., Sunderland, for the best pair of Jacobins bred in 1886.—Cup, C. Bulpin, Bridgewater. Second, G. A. Brown. Third, E. Horner. Highly Commended, G. Ure. Commended, G. White.

Silver medal or £2 2s., presented by George Ure, Esq., for the best pair Foreign Owls.—First and Second, J. Fielding, jun. Third, F. Elsie. Highly Commended, J. Montgomery. Commended, E. Horner.

Silver medal, presented by J. Wallace, Esq., Glasgow, for the best pair of Black Carriers, bred in 1886.—First, E. Horner, Harewood. Second, F. Elsie, Bayswater, London. Third, J. Muir. Highly Commended, J. R. Rennard, Helensburgh. Commended, G. A. Wherland, Cork.

Silver medal or £2 2s., presented by C. M. Royds, Esq., for the best pair of Dun Carriers, bred in 1886.—First, G. A. Wherland. Second, H. Holman. Third, F. Elsie. Highly Commended, G. Ure. Commended, J. Wallace.

CLASS PRIZES GIVEN BY THE SOCIETY.

POWTERS (Black).—Cocks.—First and Second, J. Montgomery. Third, G. Ure. Highly Commended, J. Montgomery. Commended, J. Wallace.

HENS.—First and Second, J. Montgomery. Third, J. Butler, Glasgow. Highly Commended, J. Montgomery. Commended, G. Ure.

POWTERS (White).—Cocks.—First, J. Montgomery. Second, G. Ure. Third, J. Wallace. Highly Commended, J. Cochran, Glasgow. Commended, J. Grant. HENS.—First and Third, A. Heath. Second, G. Ure. Highly Commended, J. Grant. Commended, J. Cochran.

POWTERS (Blue).—Cocks.—First, M. Stuart. Second, G. Ure. Third, F. Kair, Edinburgh. Highly Commended, G. Ure. Commended, J. Montgomery. HENS.—First and Third, J. Montgomery. Second, G. Ure. Highly Commended, J. Luls, Edinburgh. Commended, W. Lightbody.

POWTERS (Red).—Cocks.—First and Third, J. Montgomery. Second, M. Stuart. Highly Commended and Commended, J. Montgomery. HENS.—First, Second, and Third, J. Montgomery. Highly Commended, G. Ure. Commended, T. C. & E. Newbitt, Epworth.

POWTERS (Yellow).—Cocks.—First, G. Ure. Second, J. M'Farlane, Tallcross. Third, J. Montgomery. Highly Commended, G. Ure. Com-

meadow, G. Ure. Hens.—First, J. Wallace. Second, J. Ruthven. Third, G. Meacham. Highly Commended and Commended, J. Montgomery.
Powdermill (Mealy).—Cocks.—First, G. Ure. Second, G. McKenna. Third, J. Porteous. Highly Commended, M. Stuart. Commended, W. Lightbody. Hens.—First, M. Sanderson. Second, G. Ure. Third, G. White, Paisley. Highly Commended, J. A. Thomas, Glasgow. Commended, G. Ure.

Powdermill (Any other markings).—Cocks.—First, J. Ruthven (White marked). Second, J. Montgomery. Third, G. Ure (Splash). Highly Commended, F. Kerr. Commended, G. Ure (Splash). Hens.—First, J. Muir, Glasgow. Second, G. White, Paisley. Third, M. Stuart (Chequer). Highly Commended, J. Montgomery. Commended, M. Stuart (Chequer).
Quarries (Black).—Cocks.—First and Second, T. Colley, Sheffield. Third, G. Ure. Highly Commended, G. Ure. Commended, J. Wallace. Hens.—First, J. Montgomery. Second, G. Ure. Third, H. Holman. Highly Commended and Commended, G. Ure.

Quarries (Dun).—Cocks.—First, J. Montgomery. Second, G. Ure. Third, J. Wallace. Highly Commended, F. Elise. Commended, G. Ure. Hens.—First and Second, G. Ure. Third, F. Elise. Highly Commended, J. Montgomery. Commended, T. Colley.

Quarries (Any other colour).—Cocks.—First and Third, T. Colley. Second, Highly Commended, and Commended, J. C. Ord. Hens.—First and Second, T. Colley. Third, Highly Commended, and Commended, J. C. Ord.

Almonds (Short-faced).—First, Portrait, and Third, F. T. Wiltshire Croydon. Second, J. Wallace. Highly Commended, J. Ford. Commended, F. Elise.

Worries (Short-faced).—First, G. Ure. Second, W. H. C. Oates, Beethorpe. Third, H. Yardley, Birmingham.

Agates (Short-faced).—First, J. Ford. Second, T. Short. Third, J. Filding, Jun., Rochdale. Highly Commended, G. Ure. Commended, J. Muir.

Barns.—Silver medal or £2 2s., presented by a Friend.—First, J. Montgomery. Second, J. Bromley, Tongmoor. Third, G. W. Brown. Highly Commended, G. W. Brown. Commended, H. Yardley.
Fantails.—Silver medal or £2 2s., presented by George White, Esq.—First, F. Elise. Second, J. Sharpe, Johnstone. Third, H. Yardley. Highly Commended, G. Ure. Commended, G. W. Brown.

Jacobins.—Silver medal or £2 2s., presented by James Muir, Esq.—First, E. Horner. Second, J. R. Bennards, Helensburgh. Third, J. Sharpe. Highly Commended, G. White. Commended, J. G. A. Spence, Musselburgh.

Trumpeters (Mottled or Black).—Silver medal or £2 2s., presented by a friend.—First, J. Montgomery. Second, J. Wallace. Third, E. Horner. Highly Commended, G. White. Commended, J. Lang, Irvine.
Trumpeters (White).—Silver medal or £2 2s., presented by A. B. Boyd, Esq.—First, W. H. C. Oates, Beethorpe. Second and Third, C. Bulpin. Highly Commended, A. B. Boyd, Trinity, Edinburgh. Commended, F. Elise.

Turbans.—Silver medal or £2 2s., presented by J. R. Bennards, Esq.—First, G. W. Brown. Second, R. Paterson, Melrose. Third, J. Percival, Peckham Bye, London. Highly Commended, G. W. Brown. Commended, J. Montgomery.

Owls (Not foreign).—Silver medal or £2 2s., presented by Thomas Short, Esq.—First, J. Percival. Second and Third, C. Bulpin. Highly Commended H. Yardley. Commended, J. H. Frame.

Nuns.—First, W. Oheyno, Falkirk. Second, W. B. Pask, Melrose. Third, J. & D. Gray, Kilbarochan. Highly Commended, M. Richard, Dumbarton. Commended, T. C. Benson.

Beards and Balds.—First, J. Percival. Second, W. H. C. Oates (Beards). Third, J. Sharpe (Beards). Highly Commended, J. Fielding, Jun.

Dragons.—First, H. Yardley. Second, J. Wallace. Third, J. Bell, Newcastle-on-Tyne. Highly Commended, J. Wallace. Commended, H. Yardley.

Tumblers (Common).—First, J. Sharpe. Second, G. W. Brown. Third, J. Percival. Highly Commended, C. Bulpin. Commended, T. Rule, Durham.

Any Other Breed.—First and Second, J. Montgomery (Lace Fantails). Third, J. Wallace (Lahores). Highly Commended, G. W. Brown. Commended, A. B. Boyd (Schillers).

Judges.—W. B. Tegetmeier, Esq., E. L. Corker, Esq., James Miller, Esq.

HYBRIDISATION.

I AM just now interested in the subject of hybridisation, which seems to me to deserve more attention than it has yet received. I am endeavouring to obtain from careful observers the history of as many hybrid stocks as possible, tracing, however, the history of each from year to year rather than giving general impressions. I believe that you have had more experience of hybrids than any other English bee-keeper, and I should feel myself under great obligation if you would favour me with any particulars of one or more stocks that you think may be serviceable.

The points on which I chiefly seek information are:—

First, as to bees which in appearance take decidedly after one or other of the parents. Whether the proportions vary, either during the same season, as described by one observer, or from year to year, as described by others,—and if so, following which parent?—and to what extent?

Secondly, as to bees which are "intermediate between the two." Whether they take exclusively the shape of one parent and the colour of the other, or whether these intermediate bees follow the rule of hybrids among the higher animals, and unite indiscriminately and irregularly the characteristics of both parents? Also what proportion these intermediates bear to the whole population?

There is one case especially described by you in January last of a queen which bred perfectly pure bees for two seasons, if not more, and then degenerated, which is very remarkable, and from a scientific point of view is worthy of some detailed history. Though I have as yet adopted no hypothesis, but am merely seeking information on which to ground a theory, this case seems to show that the influence of the mother first preponderated, and then gave way more or less to that of the drone, but as I understand the influence of the drone gradually increased.—F. H. WARR.

[The foregoing letter was addressed to our correspondent "B. & W.," and to it he replied as follows:—

"I am afraid I cannot satisfactorily reply to your questions relative to the hybridisation of bees, although I have had, as you remark, considerable acquaintance with hybrids. The fact is, that Mr. Woodbury sent me at first one or two imperfect queens with which I laboured for two years endeavouring to Italianise my apiary in vain. Their offspring was, on the whole (the second especially), so well marked that I was thrown off my guard, and it was only as time passed that I found my bees degenerating instead of improving, as they ought to have done on the parthenogenesis theory. The fact was, the drones bred by my presumed Italians were nearly all, if not all, common black drones, and hence in the next generation the Italian bees were only as one to three instead of three to one as they had been. The degeneracy was in fact more rapid than this ratio of figures would indicate.

"To your first query I can give no reply at all, not having watched with sufficient closeness the progress of the taint. I doubt, indeed, whether any closeness of observation would have enabled me to reply to it, because I had no satisfactory data to go upon.

"For a like reason I cannot satisfy your curiosity on the second point. One only matter struck me as remarkable—that is, the extraordinary rapidity of the downward progress. For instance, let A represent Mr. Woodbury's best queen (No. 2), B a swarm from it, and C a swarm out of B. A's offspring, the queen of B, would give as three yellow-jackets, more or less beautifully marked, to one black bee, but the offspring of C would breed as five black to one imperfectly-marked Italian! In the next generation the yellow would have disappeared or been hardly perceptible! Other experience I have none to relate.

"You have, however, to be corrected in respect to the case described by me in January last. I ought to have stated that the hive had degenerated, not its queen. My observation has not led me to believe or suspect that any change takes place in the purity of the brood of any given queen.

"As I think my reply may interest others as well as yourself, I send your letter and mine to the Editors of THE JOURNAL OF HORTICULTURE by to-day's post.

"I hope, with the help of the queens since supplied to me by Mr. Woodbury, to carry on operations more successfully in future.—B. & W."]

OUR LETTER BOX.

SCHÜDDE'S INCUBATOR.—"A SPANISH BREEDER" doubts Mr. Schröder's statement of his incubator being "perfect," and wishes for a detail of results.

CROWING HEN (H.).—It is not very uncommon for a hen to crow, and it is usually an intimation that she is ceasing to be productive. Stickle feathers in the tail will probably be developed, and other changes characteristic of what is known to poultry-keepers as "a hen cook."

MUDDY FIELD (S. W.).—The portion railed off for your fowls ought to be well drained, and, when the surface has dried, a part of it covered 2 or 3 inches deep with sand or fine gravel.

POULTRY COMPANY (H. Willecks).—There is such a Company We cannot tell you why its Secretary, Mr. Massey, does not answer your letters.

BLACK BANTAMS AT THE BIRMINGHAM SHOW.—Mr. Jessop, of Hull, informs us that the second prize was awarded to birds belonging to him.

NANTWICH POULTRY SHOW.—Mr. Tudman writes to us, that he declines a controversy with anonymous correspondents.

STEWARTON HIVES (A. E.).—They are octagonal in shape, and are 12½ inches in diameter by 5½ inches deep inside measure. Three boxes of this size, called "body boxes," and one "honey box" of the same diameter, but shallower, constitute a set, the price of which and all other particulars may be readily obtained by applying to Mr. Robt. Eagham, Stewarton, Ayrshire. These hives are less expensive than those of Mr. Taylor, and are just as likely to obviate swarming. You may with a little care drive the inhabitants out of one of Neighbour's Improved Cottage Hives without injuring either the hive or the bees.

* Imperfect only in the sense that in my then incomplete knowledge of the subject I was unable to insure their absolute purity.—A DEVONSHIRE BEE-KEEPER.



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